

ON SOME AUSTRALIAN SCARABAEIDAE (COLEOPTERA).

By ARTHUR M. LEA, F.E.S.

(Nineteen Text-figures.)

[Read 30th July, 1924.]

When Masters' Catalogue of Australian Coleoptera was compiled, slightly more than 600 species of Scarabaeidae were recorded; at the present time nearly 2,000 are known; and these include many of our showiest beetles and others of great economic importance. It is probable, however, that our Melolonthides alone exceed 2,000 in number, as hundreds of unnamed species of the immense genus *Heteronyx* alone are known to me, and of many other genera of small species many remain to be named. The Rutelides and Cetonides are better known than the other subfamilies, but even to these many species have still to be added.

COPRIDES.

ONTHOPHAGUS QUADRINODICOLLIS, n.sp.

♂. Black, shining; antennae, palpi, and tarsi reddish, club paler. Under surface and legs with rusty-red hairs; the wide lateral interstices of elytra, and pygidium with rather short setae.

Head wide, sides strongly dilated in front of eyes, a flat space between eyes quadrilobed in front, the two median lobes smaller than the others and feebly upturned; space between lobes and clypeal suture with very feeble, but not very small, punctures, becoming subvermiculate on sides. Clypeus with outlines continuous with those before them, and almost equally elevated, but truncated and slightly higher in front, surface closely transversely vermiculate; suture rather acutely carinated, in three parts, the median part almost straight (as seen from directly above) and about three-fifths of the whole. Eyes large, facets indistinct. Prothorax slightly wider than elytra, sides strongly rounded, front angles produced but rounded, a distinct gutter near each side, sides rather strongly margined, apex moderately margined, base depressed and scarcely margined, front fifth retuse in middle, the retuse portion shining and surmounted by four obtuse tubercles, of which the median ones are rather distant; between each of these and the one nearer the side a shallow depression to apex, a rather shallow median line from near summit of retuse portion to base; with minute and rather sparse punctures in middle, becoming larger, but somewhat obsolete, towards and on sides; sublateral foveae rather large. Elytra with geminate striae, containing distant punctures; interstices separately convex, very finely shagreened, with distinct punctures only on sides. Metasternum with dense asperate punctures on

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sides, becoming larger, sparser, and more sharply defined elsewhere. Apical segment of abdomen moderately narrowed in middle; pygidium with large punctures. Length, 10 mm.

Hab.—Northern Territory: Darwin (N. Davies).

The flat quadrilobed interocular space distinguishes this species from all others before me.

ONTHOPHAGUS GRANICOLLIS, n.sp.

♂. Black, opaque; under surface and legs with rather long whitish-grey hairs, almost as long on head but somewhat darker; prothorax with rather dense, rusty-brown, upright setae; elytra with shorter and darker setae, confined to two rows on each interstice.

Head with a short, erect horn near each eye, the space between these and clypeal suture with numerous granules. Clypeus wide, deeply notched, each side of apex conspicuously produced, margins conspicuously elevated; surface densely granulate-punctate, suture trisinate, median portion feebly arched, and about three-fifths of the total. Eyes narrow, facets very distinct. Prothorax large, sides strongly rounded, front angles obtusely produced, hind ones very wide, margins conspicuous on sides, less so at apex and feeble at base; middle near apex with a small curved ridge, forming, with the two cephalic horns, the corners of an equilateral triangle; with small, dense, round, setiferous granules, absent from base of median line (which otherwise is but feebly defined), and, from parts near sublateral foveae, these rather deep. Elytra with very narrow striae, interstices moderately convex, very finely shagreened, and mostly with two rows of small, setiferous punctures. Under surface opaque and punctures not sharply defined, four apical segments of abdomen narrowed to middle. Length, 7 mm.

Hab.—Western Australia: Mount Barker (S. Macsorley).

An isolated species, at first glance somewhat resembling the female of *O. haagi*, but the head, prothorax and elytra are all very differently sculptured; the elytra are somewhat as on *O. jubatus*, but the head and prothorax are very different; *O. granulatus* has the head and elytra very different and the prothorax with much sparser granules. The antennae are black, except that the second and third joints are obscurely reddish. The elytral setae are indistinct from some directions, but abundantly distinct from the sides.

GEOTRUPIDES.

The Australian genera of this subfamily may be thus tabulated:—

Elytra with more than five striae between suture and each shoulder. *Bolboceras* (in part).

Elytra with five striae between suture and each shoulder.

Scutellum much longer than wide *Stenaspidius*.

Scutellum about as long as wide.

Middle coxae almost touching *Eucanthus*.

Middle coxae widely separated *Bolboceras*, subg. *Bolbapium*.

BOLBOCERAS TRICAVICOLLE, n.sp.

♂. Castaneous; some margining and projecting parts darker. Under surface and legs with rusty-red hair.

Head with a somewhat pyramidal mass between apex to near base, its summit with an elongate projection on each side, its front with two subconical

sides, becoming larger, sparser, and more sharply defined elsewhere. Apical segment of abdomen moderately narrowed in middle; pygidium with large punctures. Length, 10 mm.

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BOLBOCERAS TRICAVICOLLE, n.sp.

♂. Castaneous; some margining and projecting parts darker. Under surface and legs with rusty-red hair.

Head with a somewhat pyramidal mass between apex to near base, its summit with an elongate projection on each side, its front with two subconical

tubercles projecting forward. Mandibles large, notched before and at apex. Prothorax almost vertical and with three large excavations in front, the larger one separated from the summit by an obtuse ridge, the others frontal and each scarcely half the size of the large one, and shallowly connected with it; basal portion in middle about one-fourth the length of the segment, and with a median line; with a few large punctures and fairly numerous minute ones; with minute granules irregularly distributed, but becoming dense about sublateral foveae. Scutellum with sub-obsolete granules. Elytra with seven striae, containing distinct but not very large punctures, between suture and each shoulder. Front tibiae with six teeth, hind tibiae bicarinate. Length, 20 mm.

Hab.—Western Australia: Swan River (J. Clark).

Belongs to Subgroup 1, of Group 2, of Blackburn's revision of the genus, and would be there associated with *B. frontale*, which has the prothorax armed in the male, and is otherwise very different. The almost vertical front of prothorax, with three large cavities, and the curiously armed head are very different from any other species before me. On the type the projection on each side of the raised mass is about as long as the distance from its base to the front of the clypeus, the smaller frontal projections are about one-fourth more distant from each other than from the front of the clypeus.

BOLBOCERAS CORRUGATUM, n.sp.

Black; parts of legs obscurely dilated with red. Under surface and legs with rather dense, greyish hair.

Head with frontal elevation in the form of a narrow curved ridge, extending half-way between the eyes, outer corner of each frontal wing slightly elevated; clypeus small, its middle subconical, behind it a transverse space divided into two irregularly four-sided areolets by carinae, the hind outer corner of each areolet elevated; with irregularly distributed punctures of various sizes. Prothorax large, evenly convex, sides strongly rounded and widest near base, base strongly rounded in middle; with fairly numerous, large, irregularly distributed punctures, and some small ones; sublateral foveae represented by clusters of punctures. Scutellum triangular, distinctly longer than wide, and with large and rather dense punctures. Elytra with large approximate punctures in wide striae, of which there are seven between suture and each shoulder; interstices, except at base and on apical slope, narrower than striae. Front tibiae with ten teeth, middle coxae widely separated. Length, 8 mm.

Hab.—Queensland: Cairns district (F. P. Dodd).

At first glance somewhat like *Stenaspidius nigricornis*, but with seven striae between suture and each shoulder. The scutellum is decidedly longer than is usual in *Bolboceras*; possibly a new genus may be considered necessary for it, but failing this it could, by Boucomont's table (Ann. Soc. Ent. Fr., 1910, p. 337), only be referred to *Bolboceras*. The first elytral stria is narrowed and deflected by the scutellum, but it attains the base. Regarding the species as belonging to Group 3, of Blackburn's revision, it is distinct from all of them by the wide and deep elytral striae, with comparatively narrow interstices, and by the rather long scutellum; to the naked eye the elytra appear finely corrugated. A second specimen, from Cairns (H. Hacker), differs from the type in being smaller (6 mm.), the sides, suture and shoulders of elytra, and sides of prothorax obscurely reddish, and the legs paler; its prothorax has no small punctures, and

tubercles projecting forward. Mandibles large, notched before and at apex. Prothorax almost vertical and with three large excavations in front, the larger one separated from the summit by an obtuse ridge, the others frontal and each scarcely half the size of the large one, and shallowly connected with it; basal portion in middle about one-fourth the length of the segment, and with a median line; with a few large punctures and fairly numerous minute ones; with minute granules irregularly distributed, but becoming dense about sublateral foveae. Scutellum with sub-obsolete granules. Elytra with seven striae, containing distinct but not very large punctures, between suture and each shoulder. Front tibiae with six teeth, hind tibiae bicarinate. Length, 20 mm.

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BOLBOCERAS CORRUGATUM, n.sp.

Black; parts of legs obscurely dilated with red. Under surface and legs with rather dense, greyish hair.

Head with frontal elevation in the form of a narrow curved ridge, extending half-way between the eyes, outer corner of each frontal wing slightly elevated; clypeus small, its middle subconical, behind it a transverse space divided into two irregularly four-sided areolets by carinae, the hind outer corner of each areolet elevated; with irregularly distributed punctures of various sizes. Prothorax large, evenly convex, sides strongly rounded and widest near base, base strongly rounded in middle; with fairly numerous, large, irregularly distributed punctures, and some small ones; sublateral foveae represented by clusters of punctures. Scutellum triangular, distinctly longer than wide, and with large and rather dense punctures. Elytra with large approximate punctures in wide striae, of which there are seven between suture and each shoulder; interstices, except at base and on apical slope, narrower than striae. Front tibiae with ten teeth, middle coxae widely separated. Length, 8 mm.

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much sparser large ones (about thirty altogether, excluding the submarginal ones) and its front tibiae have but six teeth.

Var. *FLAVOCASTANEUM*, n. var. Three specimens from southern Queensland (Buderim Mountain, Mapleton and Brisbane, H. Hacker) are flavo-castaneous, with basal two-thirds of head and most of under surface black or blackish, and the scutellum infuscated; the antennae, palpi and legs (except some projecting parts of the latter) are also decidedly pale; the prothoracic punctures are as on the type, the teeth of the front tibiae vary in number from six to nine (on one specimen there are eight on one, and nine on the other).

EUCANTHUS TRICARINATICEPS, n.sp.

Dark castaneous; some marginal and projecting parts darker, antennae, palpi and parts of legs paler. Under surface and legs with rusty-red hair.

Head with irregularly distributed and rather large punctures, fairly numerous, but not dense, at base, becoming crowded in front; with three transverse carinae: one connecting the eyes, one connecting the front edges of the ocular canthi, and one at base of clypeus. Prothorax about twice as wide as the median length, front angles acute, hind ones rounded off; with large punctures, mostly confined to the depressed parts, and with minute ones more evenly distributed. Scutellum about as long as wide, with sparse and small punctures. Elytra with large punctures in deep striae, of which there are five between suture and each shoulder; interstices with minute punctures, separately convex, the even ones wider than the others, the second and the sixth (at shoulders) widest of all. Front tibiae with four teeth; middle coxae slightly separated. Length, 7.9 mm.

Hab.—South Australia: Ooldea, Barton (A. M. Lea); Western Australia: Geraldton (J. Clark).

The scutellum is much shorter than in *Stenaspidius*, and the middle coxae are almost touching, so it seems desirable to refer this species to *Eucanthus*; from the description of *E. felschei* it differs in having the head tricarinated, prothorax with coarse punctures, and scutellum with sparse ones. At first glance it appears to belong to Blackburn's Group 3, of *Bolboceras*, but the elytra have only five striae between the suture and each shoulder, and the cephalic structure is different. The prothorax has an obtuse ridge, scarcely a carina, across the median fourth at the apical third, and around it numerous large punctures, between it and the base there is a conspicuous median line containing two rows (conjoined at the base) of punctures, towards each side there are two irregular transverse impressions containing large punctures, and all the gutters contain large punctures.

MELOLONTHIDES.

LIPARETRUS CRIBRICEPS, n.sp.

Black, shining, some parts with a slight opalescent gloss; elytra obscurely flavous, suture, sides, base and apex more or less infuscated, four joints of antennae, tibial teeth and claws more or less reddish. Clothed with whitish hair, dense on under surface and hind parts, elytra glabrous.

Head obliquely flattened and with crowded and sharply defined punctures between eyes. Clypeus concave, with larger punctures than on rest of head, becoming larger and sparser in front, sides evenly decreasing in width to apex, which is gently incurved to middle. Antennae nine-jointed. Prothorax with front angles acutely produced, hind ones almost rounded off, median line well defined; punctures about as large as on head, with some larger ones scattered

much sparser large ones (about thirty altogether, excluding the submarginal ones) and its front tibiae have but six teeth.

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EUCANTHUS TRICARINATICEPS, n.sp.

Dark castaneous; some marginal and projecting parts darker, antennae, palpi and parts of legs paler. Under surface and legs with rusty-red hair.

Head with irregularly distributed and rather large punctures, fairly numerous, but not dense, at base, becoming crowded in front; with three transverse carinae: one connecting the eyes, one connecting the front edges of the ocular canthi, and one at base of clypeus. Prothorax about twice as wide as the median length, front angles acute, hind ones rounded off; with large punctures, mostly confined to the depressed parts, and with minute ones more evenly distributed. Scutellum about as long as wide, with sparse and small punctures. Elytra with large punctures in deep striae, of which there are five between suture and each shoulder; interstices with minute punctures, separately convex, the even ones wider than the others, the second and the sixth (at shoulders) widest of all. Front tibiae with four teeth; middle coxae slightly separated. Length, 7.9 mm.

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about. Elytra each with three pairs of striae, containing fairly large punctures, elsewhere with smaller but well defined punctures, a few oblique strigosities towards sides. Pygidium and propygidium with punctures of two sizes as on prothorax. Front tibiae with three teeth, the second acute and nearer the third (which is very feeble) than the first; basal joint of hind tarsi slightly shorter than second. Length, 8.5-9 mm.

Hab.—Western Australia: Kellerberrin.

Belongs to Group 2; as the clypeus, however, is somewhat incurved at the apex it is distinct from all the species referred to that Group by Blackburn; regarding the two basal joints of the hind tarsi as of equal length, it would be referred to Group 5, and there associated with *L. glabripennis*, from the description of which it differs in being considerably larger, and in the clypeus not rounded in front. To a certain extent it resembles *L. luridipennis* (of Group 12) on an enlarged scale. The hair on the prothorax is fairly dense on the apical third, and fringes the base and sides, the intervening part (as viewed from the sides) being glabrous; the upper surface of the head on the two specimens examined is almost glabrous, but may have been abraded. The clypeus is slightly more upturned in front (and consequently more largely concave) on one than on the other, but they are probably both males.

LIPARETRUS TARSALIS, n.sp.

♂. Black, somewhat shining; antennae (club infuscated), palpi, front tibiae and tarsi, and middle tarsi more or less reddish. Under surface with rather dense, greyish-white hair, becoming sparser on hind parts.

Head with crowded and rather small but sharply defined punctures, an obtuse elevation on each side of middle, with a gentle depression to clypeal suture. Clypeus with somewhat larger, less crowded, and better defined punctures; suture gently arched forward, sides strongly diminishing to near apex, with the front angles oblique and very acute, front evenly and rather strongly incurved. Antennae nine-jointed. Prothorax with surface somewhat uneven, front angles acute, hind ones rounded off, median line scarcely traceable; punctures dense but not crowded, somewhat as on clypeus, but less regular. Elytra with fairly large and dense punctures, and some slightly larger ones in geminate striae. Hind parts with punctures slightly smaller and denser than on elytra. Front tibiae strongly tridentate; front tarsi with a longitudinal impression on the outer side of each joint, basal joint acutely ridged on its lower edge; front claws rather stout, and with an obtuse basal process; basal joint of hind tarsi slightly shorter than second. Length, 10 mm.

Hab.—New South Wales: Grenfell (Dr. E. W. Ferguson).

There are some long hairs on the apex of prothorax, and the sides and base are distinctly fringed; there appear also to be stumps of hairs near the apex, so the type has probably been partly abraded; if non-abraded, it belongs to Group 4, in which it certainly seems out of place; if abraded, it might be associated with *L. kreuslerae*, from which it differs in the acutely angled clypeus and ridged basal joint of front tarsi; its tarsi associate it with *L. ater* and *L. phoenicopterus*; from the description of the former it should be distinct by its head and size, from the latter it differs in its colour of elytra and in the clypeus; from *L. niger* and *L. insignis*, it is distinct by the clypeus more strongly narrowed, with the front angles more acutely projecting, and by the feeble tubercles of head. In Macleay's grouping it would belong to Subsection 1 of Section 1, and

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LIPARETRUS TARSALIS, n.sp.

♂. Black, somewhat shining; antennae (club infuscated), palpi, front tibiae and tarsi, and middle tarsi more or less reddish. Under surface with rather dense, greyish-white hair, becoming sparser on hind parts.

Head with crowded and rather small but sharply defined punctures, an obtuse elevation on each side of middle, with a gentle depression to clypeal suture. Clypeus with somewhat larger, less crowded, and better defined punctures; suture gently arched forward, sides strongly diminishing to near apex, with the front angles oblique and very acute, front evenly and rather strongly incurved. Antennae nine-jointed. Prothorax with surface somewhat uneven, front angles acute, hind ones rounded off, median line scarcely traceable; punctures dense but not crowded, somewhat as on clypeus, but less regular. Elytra with fairly large and dense punctures, and some slightly larger ones in geminate striae. Hind parts with punctures slightly smaller and denser than on elytra. Front tibiae strongly tridentate; front tarsi with a longitudinal impression on the outer side of each joint, basal joint acutely ridged on its lower edge; front claws rather stout, and with an obtuse basal process; basal joint of hind tarsi slightly shorter than second. Length, 10 mm.

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it is the first large black species with acutely angular clypeus to be recorded from New South Wales.

LIPARETRUS BILOBUS, n.sp.

Flavous; head, prothorax and parts of legs somewhat darker than other parts. Under surface and hind parts with short clothing, upper surface glabrous, except for marginal fringes, and a few submarginal hairs on elytra.

Head moderately convex, with small and ill-defined punctures. Clypeus rather short and concave, with somewhat larger punctures than on rest of head, front distinctly bilobed, suture gently bisinuate. Antennae nine-jointed. Prothorax strongly convex, with a wide apical membrane, front angles acutely produced, hind ones almost rounded off, median line absent; punctures fairly dense, but small and ill-defined. Elytra each with four slightly convex ridges bounded by geminate rows of small punctures, the interstices wide and also with small punctures. Hind parts with rather dense and small punctures. Front tibiae obtusely tridentate; hind tarsi with basal joint slightly shorter than second. Length, 7.5 mm.

Hab.—Northern Territory: Daly River (H. Wesselman).

The first and second joints of the hind tarsi are almost equal, the first being a trifle the shorter; regarding it as such it would belong to Blackburn's Group 4, and there associated with *L. aridus*, which in general it strikingly resembles, but from which it is at once distinguished by the bilobed clypeus; it also closely resembles *L. flavus* (of Group 14), but the clypeus and front tibiae are different. If referred to Group 7 it would be associated with species with which it has few details in common.

LIPARETRUS LONGIPILIS, n.sp.

Black, in parts with a faint opalescent gloss; parts of elytra obscurely diluted with red, antennae (except club), palpi, and tarsi reddish. Under surface and legs with rather dense, whitish hair, becoming sparser, but still fairly dense, on hind parts; prothorax and head (except clypeus) with fairly dense, erect, black or blackish hair.

Head obliquely flattened and with densely crowded punctures. Clypeus rather short, moderately concave; with slightly larger and less crowded punctures than on rest of head, front angles strongly rounded off. Antennae nine-jointed. Prothorax with a fairly long apical membrane, front angles acutely produced, hind ones rounded off, median line feeble; punctures fairly dense and of several sizes. Elytra with geminate rows of fairly large punctures, those on the interstices almost as large, but not as close together; each side with a partial fringe of setiferous granules, the setae short and stiff. Hind parts with punctures much as on clypeus. Front tibiae acutely tridentate. Length, 7 mm.

Hab.—Western Australia: Busselton (Edgar R. Waite).

From some directions the first joint of the hind tarsi appears to be slightly shorter than the second, but when examined so that its extreme base is visible, it appears to be the length of the second, or even a trifle longer; it is certainly not "distinctly longer" (as in Group 8), hence it might be referred to either Group 2 or 5. If to Group 2, it would be associated with *L. dispar*, which is a much larger species, with coarser prothoracic punctures and less of elytra dark; if to Group 5, it would go with *L. erythropterus* and *L. amabilis*; from the description of the former it differs in its darker and pilose hind parts, and

it is the first large black species with acutely angular clypeus to be recorded from New South Wales.

LIPARETRUS BILOBUS, n.sp.

Flavous; head, prothorax and parts of legs somewhat darker than other parts. Under surface and hind parts with short clothing, upper surface glabrous, except for marginal fringes, and a few submarginal hairs on elytra.

Head moderately convex, with small and ill-defined punctures. Clypeus rather short and concave, with somewhat larger punctures than on rest of head, front distinctly bilobed, suture gently bisinuate. Antennae nine-jointed. Prothorax strongly convex, with a wide apical membrane, front angles acutely produced, hind ones almost rounded off, median line absent; punctures fairly dense, but small and ill-defined. Elytra each with four slightly convex ridges bounded by geminate rows of small punctures, the interstices wide and also with small punctures. Hind parts with rather dense and small punctures. Front tibiae obtusely tridentate; hind tarsi with basal joint slightly shorter than second. Length, 7.5 mm.

Hab.—Northern Territory: Daly River (H. Wesselman).

The first and second joints of the hind tarsi are almost equal, the first being a trifle the shorter; regarding it as such it would belong to Blackburn's Group 4, and there associated with *L. aridus*, which in general it strikingly resembles, but from which it is at once distinguished by the bilobed clypeus; it also closely resembles *L. flavus* (of Group 14), but the clypeus and front tibiae are different. If referred to Group 7 it would be associated with species with which it has few details in common.

LIPARETRUS LONGIPILIS, n.sp.

Black, in parts with a faint opalescent gloss; parts of elytra obscurely diluted with red, antennae (except club), palpi, and tarsi reddish. Under surface and legs with rather dense, whitish hair, becoming sparser, but still fairly dense, on hind parts; prothorax and head (except clypeus) with fairly dense, erect, black or blackish hair.

Head obliquely flattened and with densely crowded punctures. Clypeus rather short, moderately concave; with slightly larger and less crowded punctures than on rest of head, front angles strongly rounded off. Antennae nine-jointed. Prothorax with a fairly long apical membrane, front angles acutely produced, hind ones rounded off, median line feeble; punctures fairly dense and of several sizes. Elytra with geminate rows of fairly large punctures, those on the interstices almost as large, but not as close together; each side with a partial fringe of setiferous granules, the setae short and stiff. Hind parts with punctures much as on clypeus. Front tibiae acutely tridentate. Length, 7 mm.

Hab.—Western Australia: Busselton (Edgar R. Waite).

From some directions the first joint of the hind tarsi appears to be slightly shorter than the second, but when examined so that its extreme base is visible, it appears to be the length of the second, or even a trifle longer; it is certainly not "distinctly longer" (as in Group 8), hence it might be referred to either Group 2 or 5. If to Group 2, it would be associated with *L. dispar*, which is a much larger species, with coarser prothoracic punctures and less of elytra dark; if to Group 5, it would go with *L. erythropterus* and *L. amabilis*; from the description of the former it differs in its darker and pilose hind parts, and

from that of the latter in being larger, and hind half of body darker. The entirely black club and simple clothing of hind parts distinguish it from the darker specimens of *L. vestitus* and *L. nigroumbratus*; it has the general appearance of some of the darker specimens referred by Blackburn to *L. vestitus*; it also resembles some of the darker specimens of *L. picipennis*, and of *L. incertus* (of Group 4).

LIPARETRUS ORTHODOXUS, n.sp.

Black; elytra (base infuscated), hind parts (base of propygidium infuscated), and most of legs red or reddish, antennae and palpi flavous. Under surface moderately clothed with whitish hair, becoming sparser on abdomen and absent from hind parts, prothorax with erect discal hairs and apical and lateral fringes, elytra glabrous.

Head with crowded and rather coarse punctures, the interspaces with minute ones. Clypeus rather short, slightly concave, suture distinctly bisinuate, sides oblique to apex, which is truncated, with the angles but slightly rounded off. Antennae nine-jointed. Prothorax with front angles acutely produced, hind ones rounded off, median line conspicuous near base, but scarcely traceable elsewhere; with large scattered punctures and fairly numerous smaller ones. Elytra rather short, with fairly large punctures in geminate series, the interstices with almost equally large ones. Hind parts with fairly large, dense punctures, on the pygidium mixed with some larger ones. Front tibiae tridentate, the third tooth rather obtuse; basal joint of hind tarsi conspicuously longer than second. Length, 8 mm.

Hab.—Queensland: Bowen (Aug. Simson).

In Blackburn's table would be referred to FF, of Group 8, from all the previously described species of which it is distinguished by the clypeus not being tridentate. It is quite an ordinary-looking species, resembling more or less closely bicoloured specimens of other groups, from which it is at once distinguished by the long basal joint of the hind tarsi. The upper surface of the head of the type is glabrous, but may have been abraded; the geminate rows of punctures on the elytra are sharply defined, but are contained in very feeble striae.

LIPARETRUS PILICEPS, n.sp.

Black, subopaque; elytra of a dingy flavous-brown; base, suture, sides, and apex more or less infuscated, antennae, palpi, and most of legs reddish or flavous. Sterna with moderately dense, whitish hair, sparser on abdomen, still sparser and shorter on hind parts, head with flavous hairs between eyes, prothorax with side fringes only, elytra glabrous.

Head with crowded and rather small punctures, with some larger ones (each containing a hair) scattered about. Clypeus moderately concave, sides rather strongly narrowed from base to apex, apex slightly incurved to middle, suture strongly bisinuate; punctures slightly larger and less crowded than on rest of head. Antennae nine-jointed. Prothorax with front angles subacutely produced, hind ones completely rounded off, median line distinct near base and traceable almost to apex; punctures rather small and numerous, but not crowded. Elytra short, with distinct geminate striae containing fairly large punctures, interstices with somewhat similar, but more distant, punctures. Hind parts with punctures much as on clypeus. Front tibiae acutely tridentate; hind tarsi with first joint distinctly longer than second. Length, 5.5 mm.

Hab.—South Australia: Murray River (F. R. Zietz).

from that of the latter in being larger, and hind half of body darker. The entirely black club and simple clothing of hind parts distinguish it from the darker specimens of *L. vestitus* and *L. nigroumbratus*; it has the general appearance of some of the darker specimens referred by Blackburn to *L. vestitus*; it also resembles some of the darker specimens of *L. picipennis*, and of *L. incertus* (of Group 4).

LIPARETRUS ORTHODOXUS, n.sp.

Black; elytra (base infuscated), hind parts (base of propygidium infuscated), and most of legs red or reddish, antennae and palpi flavous. Under surface moderately clothed with whitish hair, becoming sparser on abdomen and absent from hind parts, prothorax with erect discal hairs and apical and lateral fringes, elytra glabrous.

Head with crowded and rather coarse punctures, the interspaces with minute ones. Clypeus rather short, slightly concave, suture distinctly bisinuate, sides oblique to apex, which is truncated, with the angles but slightly rounded off. Antennae nine-jointed. Prothorax with front angles acutely produced, hind ones rounded off, median line conspicuous near base, but scarcely traceable elsewhere; with large scattered punctures and fairly numerous smaller ones. Elytra rather short, with fairly large punctures in geminate series, the interstices with almost equally large ones. Hind parts with fairly large, dense punctures, on the pygidium mixed with some larger ones. Front tibiae tridentate, the third tooth rather obtuse; basal joint of hind tarsi conspicuously longer than second. Length, 8 mm.

Hab.—Queensland: Bowen (Aug. Simson).

In Blackburn's table would be referred to FF, of Group 8, from all the previously described species of which it is distinguished by the clypeus not being tridentate. It is quite an ordinary-looking species, resembling more or less closely bicoloured specimens of other groups, from which it is at once distinguished by the long basal joint of the hind tarsi. The upper surface of the head of the type is glabrous, but may have been abraded; the geminate rows of punctures on the elytra are sharply defined, but are contained in very feeble striae.

LIPARETRUS PILICEPS, n.sp.

Black, subopaque; elytra of a dingy flavous-brown; base, suture, sides, and apex more or less infuscated, antennae, palpi, and most of legs reddish or flavous. Sterna with moderately dense, whitish hair, sparser on abdomen, still sparser and shorter on hind parts, head with flavous hairs between eyes, prothorax with side fringes only, elytra glabrous.

Head with crowded and rather small punctures, with some larger ones (each containing a hair) scattered about. Clypeus moderately concave, sides rather strongly narrowed from base to apex, apex slightly incurved to middle, suture strongly bisinuate; punctures slightly larger and less crowded than on rest of head. Antennae nine-jointed. Prothorax with front angles subacutely produced, hind ones completely rounded off, median line distinct near base and traceable almost to apex; punctures rather small and numerous, but not crowded. Elytra short, with distinct geminate striae containing fairly large punctures, interstices with somewhat similar, but more distant, punctures. Hind parts with punctures much as on clypeus. Front tibiae acutely tridentate; hind tarsi with first joint distinctly longer than second. Length, 5.5 mm.

Hab.—South Australia: Murray River (F. R. Zietz).

A rather small, dingy species, in general appearance fairly close to *L. bituberculatus*, but apex of clypeus gently curved instead of tridentate; in Blackburn's table of its Group (10), it would be associated with *L. convexior* and *L. laeticulus*; the latter is a much smaller species with sharply defined punctures on prothorax and elytra, etc.; from the description of the former (which is hardly more than a comparison with *L. rotundipennis*), it differs in having the prothorax opaque, and elytra of two colours; *L. rotundipennis* has the clypeus rounded in front and, with *L. convexior*, was placed in Macleay's Subsection 3, having the "Clypeus more or less rounded in both sexes; it also resembles some of the moderately dark specimens of *L. rubefactus* (Group 4). Parts of the under surface and legs have a slight pruinose gloss."

LIPARETRUS CRIBRIPENNIS, n.sp.

Black, shining; prothorax subopaque, antennae (parts of club infuscated) and palpi reddish. Sterna and parts of abdomen with fairly dense, whitish hair; upper surface glabrous.

Head moderately convex, with rather small and numerous, but not dense, punctures. Clypeus almost semi-circular, sides almost evenly elevated, suture fairly deep; punctures sparse and minute. Antennae nine-jointed. Prothorax with apical membrane rather wide, front angles moderately produced, hind ones completely rounded off, median line absent; with fairly large and dense, but shallow, obsolete punctures. Elytra short, sides and tips strongly rounded; with large and fairly dense punctures, the geminate rows very ill-defined. Hind parts with dense, sharply defined punctures, obtusely ridged along middle. Front tibiae unidentate, apical process long and acute, basal joint of hind tarsi longer than second. Length, 8 mm.

Hab.—South Australia: Ooldea (A. M. Lea).

In Blackburn's table belongs to EE, of Group 13, and from all the species there noted it differs in the black elytra; *L. caviceps* and *L. rotundipennis* have the front tibiae bidentate, and differ in other details; there are many black species of other Groups, but the characters noted in the table are ample to distinguish the present from all of them. The base of the clypeus, as seen from behind, appears to be traversed by a conspicuous ridge, with distinct punctures (the only distinct ones on the clypeus) on its posterior end; from directly above, it appears to slope evenly downwards to the base of the elevated margin. On the type, the base of the propygidium is exposed, has a bluish-white gloss, and is densely clothed with white pubescence, but it would probably be concealed on most specimens.

LIPARETRUS GEMINATUS, n.sp.

Castaneo-flavous; head (including clypeus, or not), sterna, and base of abdomen black, club infuscated. Sterna with moderately dense white hair, abdomen more sparingly clothed, hind parts and upper surface glabrous.

Head with dense and sharply defined punctures, but base impunctate; a vague depression in middle at clypeal suture. Clypeus with sides feebly elevated and oblique to apex, which is evenly rounded, two distinct sub-conjoined elevations in middle of base, suture deep and bisinuate; punctures slightly sparser and larger than between eyes. Antennae nine-jointed. Prothorax very short, front angles almost rectangular, hind ones rounded off; punctures rather shallow and ill defined, but not very small. Elytra with geminate rows of punctures of

A rather small, dingy species, in general appearance fairly close to *L. bituberculatus*, but apex of clypeus gently curved instead of tridentate; in Blackburn's table of its Group (10), it would be associated with *L. convexior* and *L. laeticulus*; the latter is a much smaller species with sharply defined punctures on prothorax and elytra, etc.; from the description of the former (which is hardly more than a comparison with *L. rotundipennis*), it differs in having the prothorax opaque, and elytra of two colours; *L. rotundipennis* has the clypeus rounded in front and, with *L. convexior*, was placed in Macleay's Subsection 3, having the "Clypeus more or less rounded in both sexes; it also resembles some of the moderately dark specimens of *L. rubefactus* (Group 4). Parts of the under surface and legs have a slight pruinose gloss."

LIPARETRUS CRIBRIPENNIS, n.sp.

Black, shining; prothorax subopaque, antennae (parts of club infuscated) and palpi reddish. Sterna and parts of abdomen with fairly dense, whitish hair; upper surface glabrous.

Head moderately convex, with rather small and numerous, but not dense, punctures. Clypeus almost semi-circular, sides almost evenly elevated, suture fairly deep; punctures sparse and minute. Antennae nine-jointed. Prothorax with apical membrane rather wide, front angles moderately produced, hind ones completely rounded off, median line absent; with fairly large and dense, but shallow, obsolete punctures. Elytra short, sides and tips strongly rounded; with large and fairly dense punctures, the geminate rows very ill-defined. Hind parts with dense, sharply defined punctures, obtusely ridged along middle. Front tibiae unidentate, apical process long and acute, basal joint of hind tarsi longer than second. Length, 8 mm.

Hab.—South Australia: Ooldea (A. M. Lea).

In Blackburn's table belongs to EE, of Group 13, and from all the species there noted it differs in the black elytra; *L. caviceps* and *L. rotundipennis* have the front tibiae bidentate, and differ in other details; there are many black species of other Groups, but the characters noted in the table are ample to distinguish the present from all of them. The base of the clypeus, as seen from behind, appears to be traversed by a conspicuous ridge, with distinct punctures (the only distinct ones on the clypeus) on its posterior end; from directly above, it appears to slope evenly downwards to the base of the elevated margin. On the type, the base of the propygidium is exposed, has a bluish-white gloss, and is densely clothed with white pubescence, but it would probably be concealed on most specimens.

LIPARETRUS GEMINATUS, n.sp.

Castaneo-flavous; head (including clypeus, or not), sterna, and base of abdomen black, club infuscated. Sterna with moderately dense white hair, abdomen more sparingly clothed, hind parts and upper surface glabrous.

Head with dense and sharply defined punctures, but base impunctate; a vague depression in middle at clypeal suture. Clypeus with sides feebly elevated and oblique to apex, which is evenly rounded, two distinct sub-conjoined elevations in middle of base, suture deep and bisinuate; punctures slightly sparser and larger than between eyes. Antennae nine-jointed. Prothorax very short, front angles almost rectangular, hind ones rounded off; punctures rather shallow and ill defined, but not very small. Elytra with geminate rows of punctures of

moderate size, the interstices with somewhat smaller ones. Hind parts with crowded punctures of moderate size, and with an obtuse interrupted ridge. Front tibiae unidentate, apical process long and very acute, hind tarsi with basal joint distinctly longer than second. Length, 4.5-5 mm.

Hab.—South Australia: Barton (A. M. Lea).

A small species, very distinct from all others known to me by the two projections at base of clypeus; of seven specimens obtained, three have the clypeus as pale as the prothorax; on the others it is black. In Blackburn's table of Group 13, it would be associated with *L. modestus*, from the type of which it differs in the deep black head, with clypeal projections, and in the even sweep of the front tibiae (on the type of *L. modestus* there is a feeble projection near the outer base of the left front tibia—the right one is missing); *L. minor*, which is about the same size, has the hind parts darker, and is without clypeal projections.

LIPARETRUS TIBIALIS, n.sp.

Castaneo-flavous; elytra flavous, head and sterna black or blackish, club and scutellum infuscated. Sterna moderately clothed with white hair, becoming sparser on abdomen; hind parts with white pubescence, except on tip of pygidium, where there are a few hairs, head with a few short erect hairs, sides of prothorax with long fringes, rest of upper surface glabrous.

Head with crowded and somewhat coarse punctures, slightly larger on clypeus than elsewhere. Clypeus almost semi-circular, margins moderately elevated, suture deep. Antennae eight-jointed. Prothorax with front angles moderately produced, hind ones rounded off, median line very distinct at base and traceable throughout; punctures about as large as on head, but less crowded. Elytra with moderately large and dense punctures, geminate rows ill defined. Hind parts with dense, but partially concealed, punctures. Front tibiae unidentate, apical process long and acute; basal joint of hind tibiae decidedly longer than second. Length, 4.4.25 mm.

Hab.—South Australia: Ooldea (A. M. Lea).

Of the two species referred by Blackburn to Group 18 (to which this species belongs) it differs from *L. laevatus* (from Queensland) in having the clypeus evenly rounded in front, and the hind parts pale and moderately clothed; and from the description of *L. laetus* in its much smaller size, and by the front tibiae; these at first appear to be unidentate, but the even sweep of the outer edge is feebly interrupted near the middle on two specimens, although the interruption is certainly not a distinct tooth, and from one specimen it is altogether absent. If Blackburn's surmise that *L. gagaticeps* (from King's Sound) belonged to Group 18, is correct, that species should be distinct from the present one by very different punctures on the head and prothorax. The antennae were examined under the microscope to make sure that they were but eight-jointed.

LIPARETRUS CLYPEALIS, n.sp.

Castaneous; elytra (which are shining) paler than prothorax (which is opaque), head, edges of prothorax, scutellum, and sterna black, antennae flavous, parts of club infuscated. Sterna with moderately dense white hair, becoming sparser, shorter, and mostly depressed on abdomen (including the hind parts).

Head with dense and sharply defined, but rather small, punctures, a feeble transverse median elevation in middle. Clypeus with sides strongly narrowed to

moderate size, the interstices with somewhat smaller ones. Hind parts with crowded punctures of moderate size, and with an obtuse interrupted ridge. Front tibiae unidentate, apical process long and very acute, hind tarsi with basal joint distinctly longer than second. Length, 4.5-5 mm.

Hab.—South Australia: Barton (A. M. Lea).

A small species, very distinct from all others known to me by the two projections at base of clypeus; of seven specimens obtained, three have the clypeus as pale as the prothorax; on the others it is black. In Blackburn's table of Group 13, it would be associated with *L. modestus*, from the type of which it differs in the deep black head, with clypeal projections, and in the even sweep of the front tibiae (on the type of *L. modestus* there is a feeble projection near the outer base of the left front tibia—the right one is missing); *L. minor*, which is about the same size, has the hind parts darker, and is without clypeal projections.

LIPARETRUS TIBIALIS, n.sp.

Castaneo-flavous; elytra flavous, head and sterna black or blackish, club and scutellum infuscated. Sterna moderately clothed with white hair, becoming sparser on abdomen; hind parts with white pubescence, except on tip of pygidium, where there are a few hairs, head with a few short erect hairs, sides of prothorax with long fringes, rest of upper surface glabrous.

Head with crowded and somewhat coarse punctures, slightly larger on clypeus than elsewhere. Clypeus almost semi-circular, margins moderately elevated, suture deep. Antennae eight-jointed. Prothorax with front angles moderately produced, hind ones rounded off, median line very distinct at base and traceable throughout; punctures about as large as on head, but less crowded. Elytra with moderately large and dense punctures, geminate rows ill defined. Hind parts with dense, but partially concealed, punctures. Front tibiae unidentate, apical process long and acute; basal joint of hind tibiae decidedly longer than second. Length, 4.4.25 mm.

Hab.—South Australia: Ooldea (A. M. Lea).

Of the two species referred by Blackburn to Group 18 (to which this species belongs) it differs from *L. laevatus* (from Queensland) in having the clypeus evenly rounded in front, and the hind parts pale and moderately clothed; and from the description of *L. laetus* in its much smaller size, and by the front tibiae; these at first appear to be unidentate, but the even sweep of the outer edge is feebly interrupted near the middle on two specimens, although the interruption is certainly not a distinct tooth, and from one specimen it is altogether absent. If Blackburn's surmise that *L. gagaticeps* (from King's Sound) belonged to Group 18, is correct, that species should be distinct from the present one by very different punctures on the head and prothorax. The antennae were examined under the microscope to make sure that they were but eight-jointed.

LIPARETRUS CLYPEALIS, n.sp.

Castaneous; elytra (which are shining) paler than prothorax (which is opaque), head, edges of prothorax, scutellum, and sterna black, antennae flavous, parts of club infuscated. Sterna with moderately dense white hair, becoming sparser, shorter, and mostly depressed on abdomen (including the hind parts).

Head with dense and sharply defined, but rather small, punctures, a feeble transverse median elevation in middle. Clypeus with sides strongly narrowed to

apex, front moderately elevated, truncated across middle, but with angles strongly rounded, suture distinct towards sides, but interrupted in middle; punctures somewhat larger and less crowded than on the rest of head. Antennae seven-jointed. Prothorax with several vague transverse impressions, front angles acutely produced, hind ones very obtuse, median line feeble near base, and scarcely traceable elsewhere; punctures rather small and fairly dense, but not crowded. Elytra with geminate rows of fairly large and mostly transverse punctures; interstices with punctures of about the same size, but not transverse. Hind parts shagreened and with dense punctures, about as large as on clypeus, but less sharply defined. Front tibiae strongly tridentate, basal joint of hind tarsi conspicuously longer than second. Length, 8-8.5 mm.

Hab.—Western Australia: Mullewa (Miss J. F. May), Kellerberrin, Northam.

The antennae with but seven joints, and prothorax entirely glabrous, except for lateral fringes, can only associate this species in Blackburn's table with *L. opacicollis*, from the description of which it differs in having but one small tuberosity in the middle of the clypeal suture, an obtuse swelling on the forehead, head with rather coarse punctures, thorax only partly infuscated, and hind parts not black; the colour differences, however, are probably immaterial; structurally it is fairly close to *L. laevis* (a variable species in colour), but the prothorax is not fringed across the apex. A second specimen is coloured as the type; on a third, the apical third of the prothorax, the shoulders, and base of elytra are blackish; on a fourth, the prothorax is black, except for an obscurely reddish transverse space near the base, but the elytra are blackish only at the extreme base. The clothing of the hind parts appears to be easily abraded, but is almost perfect on two of the specimens; on most of the abdominal segments there is a transverse row of long yellowish hairs, but they are easily lost. The clypeal suture is not very deeply impressed, but is very distinct by a narrow, polished, impunctate space on each side behind it; the interruption in its middle, on three specimens, appears as a short longitudinal ridge.

MAECHIDIUS PUNCTICOLLIS, n.sp.

Black or blackish-brown, and shining; legs and parts of under surface obscurely reddish, antennae and palpi paler.

Head with coarse punctures, many semi-double; front with a deep and almost U-shaped notch, sides obliquely and almost evenly increasing in width to base, where they are suddenly narrowed to touch the eyes at about their middle. Club three-jointed. Prothorax with front angles acutely produced, sides obtusely crenulated, regularly increasing in width to near base, and then strongly incurved (or notched) to base; with rather large, round punctures, each containing a flattened granule, but no setae, becoming crowded and irregular near sides; base with a fringe of short setae. Elytra slightly dilated to beyond the middle, striae very narrow, interstices wide, each with an inner and an outer row of shallow punctures with elliptic outlines, and each with a thin depressed pale seta. Front tibiae with three teeth, the second tooth much nearer the first than the third; each claw with a basal quill. Length, 9-10 mm.

Hab.—Queensland: Coen River (W. D. Dodd).

In Blackburn's table would be associated with *M. excisicollis*, from which it differs in being shining, in the very different sculpture of elytra, and absence of setae from the discal punctures of prothorax; the sides of the head are some-

apex, front moderately elevated, truncated across middle, but with angles strongly rounded, suture distinct towards sides, but interrupted in middle; punctures somewhat larger and less crowded than on the rest of head. Antennae seven-jointed. Prothorax with several vague transverse impressions, front angles acutely produced, hind ones very obtuse, median line feeble near base, and scarcely traceable elsewhere; punctures rather small and fairly dense, but not crowded. Elytra with geminate rows of fairly large and mostly transverse punctures; interstices with punctures of about the same size, but not transverse. Hind parts shagreened and with dense punctures, about as large as on clypeus, but less sharply defined. Front tibiae strongly tridentate, basal joint of hind tarsi conspicuously longer than second. Length, 8-8.5 mm.

Hab.—Western Australia: Mullewa (Miss J. F. May), Kellerberrin, Northam.

The antennae with but seven joints, and prothorax entirely glabrous, except for lateral fringes, can only associate this species in Blackburn's table with *L. opacicollis*, from the description of which it differs in having but one small tuberosity in the middle of the clypeal suture, an obtuse swelling on the forehead, head with rather coarse punctures, thorax only partly infuscated, and hind parts not black; the colour differences, however, are probably immaterial; structurally it is fairly close to *L. laevis* (a variable species in colour), but the prothorax is not fringed across the apex. A second specimen is coloured as the type; on a third, the apical third of the prothorax, the shoulders, and base of elytra are blackish; on a fourth, the prothorax is black, except for an obscurely reddish transverse space near the base, but the elytra are blackish only at the extreme base. The clothing of the hind parts appears to be easily abraded, but is almost perfect on two of the specimens; on most of the abdominal segments there is a transverse row of long yellowish hairs, but they are easily lost. The clypeal suture is not very deeply impressed, but is very distinct by a narrow, polished, impunctate space on each side behind it; the interruption in its middle, on three specimens, appears as a short longitudinal ridge.

MAECHIDIUS PUNCTICOLLIS, n.sp.

Black or blackish-brown, and shining; legs and parts of under surface obscurely reddish, antennae and palpi paler.

Head with coarse punctures, many semi-double; front with a deep and almost U-shaped notch, sides obliquely and almost evenly increasing in width to base, where they are suddenly narrowed to touch the eyes at about their middle. Club three-jointed. Prothorax with front angles acutely produced, sides obtusely crenulated, regularly increasing in width to near base, and then strongly incurved (or notched) to base; with rather large, round punctures, each containing a flattened granule, but no setae, becoming crowded and irregular near sides; base with a fringe of short setae. Elytra slightly dilated to beyond the middle, striae very narrow, interstices wide, each with an inner and an outer row of shallow punctures with elliptic outlines, and each with a thin depressed pale seta. Front tibiae with three teeth, the second tooth much nearer the first than the third; each claw with a basal quill. Length, 9-10 mm.

Hab.—Queensland: Coen River (W. D. Dodd).

In Blackburn's table would be associated with *M. excisicollis*, from which it differs in being shining, in the very different sculpture of elytra, and absence of setae from the discal punctures of prothorax; the sides of the head are some-

what as on *M. sordidus*, but the prothorax is notched at the sides, and with sharply defined punctures, each with a granule which does not rise above the general level.

MAECHIDIUS EUTERMIPHILUS, n.sp.

Dark reddish-brown or piceous-brown, some parts almost black; antennae and palpi paler. Upper surface with short, pale setae on the elytra in regular rows, except on the sides, where there are some long ones.

Head with rough, crowded punctures; in front with a large semi-double excavation; front widely and rather deeply emarginate, with a triangular projection on each side of the emargination, sides then slightly increasing in width to middle, and then triangularly dilated. Prothorax not twice as wide as long, rather strongly convex, sides strongly and almost evenly rounded and strongly crenulated, considerably wider at base than at apex; with large punctures, nearly all of which have a shining granule on the anterior edge. Elytra with rows of long punctures, many of which are separated by transverse shining granules. Front tibiae with two obtuse conjoined teeth in front, and a larger sub-obtuse one in middle; claws without basal quills. Length, 7-8 mm.

Hab.—Queensland: Townsville, from nests of *Eutermes* sp. (G. F. Hill).

In Blackburn's table would be associated with *M. major* and *M. gibbicollis*; from the former it differs in being much smaller, prothorax more convex, with its sides conspicuously crenulated and more rounded; from the description of the latter in the front tibiae and sides of head; *M. tibialis*, also from nests of white ants, has the head and prothorax very differently sculptured, and abnormal hind tibiae. On one specimen, the space between the lateral notch and the apex on each side of the head is evenly oblique, but on three others there is a feeble rounded projection on each side there. The outlines of the head are very different from all those given in the Transactions of the Royal Society of South Australia for 1917 (Pl. xxxvii., figs. 88-107). From some directions the prothorax appears to be covered with large, flattened granules.

DIPHUCEPHALA PARVICEPS, n.sp.

♂. Metallic coppery-green, elytra reddish, with a greenish gloss; antennae (club infuscated), palpi, and legs (knees greenish, parts of tarsi purplish) reddish. Moderately densely clothed with depressed, whitish pubescence.

Head with crowded, round, and rather shallow punctures. Clypeus with front angles elevated and filled with hair, the notch widely U-shaped. Prothorax with median line conspicuous throughout, but not very wide, each transverse sulcus rather deep, not traceable to middle, the side adjacent to it angularly dilated; punctures much as on head, but sparser adjacent to the median line. Scutellum highly polished and impunctate. Elytra with dense, asperate punctures, rather large, but not sharply defined, several interstices feebly elevated. Pygidium with dense and rather small punctures, an almost impunctate median line, the tip with a coppery gloss. Front tibiae bidentate, three basal joints of front tarsi much wider than long, and densely padded on under surface. Length, 8-8.5 mm.

Hab.—Queensland: National Park in December (H. Hacker and R. Illidge).

The median line of the pronotum is neither narrow nor shallow, being much as on the species identified by Blackburn as *D. ignota*, which, however, he referred to A.B. in his table of the genus; from that species it differs in having the head smaller, clothing slightly longer and paler, hind tarsi darker, and elytra reddish;

what as on *M. sordidus*, but the prothorax is notched at the sides, and with sharply defined punctures, each with a granule which does not rise above the general level.

MAECHIDIUS EUTERMIPHILUS, n.sp.

Dark reddish-brown or piceous-brown, some parts almost black; antennae and palpi paler. Upper surface with short, pale setae on the elytra in regular rows, except on the sides, where there are some long ones.

Head with rough, crowded punctures; in front with a large semi-double excavation; front widely and rather deeply emarginate, with a triangular projection on each side of the emargination, sides then slightly increasing in width to middle, and then triangularly dilated. Prothorax not twice as wide as long, rather strongly convex, sides strongly and almost evenly rounded and strongly crenulated, considerably wider at base than at apex; with large punctures, nearly all of which have a shining granule on the anterior edge. Elytra with rows of long punctures, many of which are separated by transverse shining granules. Front tibiae with two obtuse conjoined teeth in front, and a larger sub-obtuse one in middle; claws without basal quills. Length, 7-8 mm.

Hab.—Queensland: Townsville, from nests of *Eutermes* sp. (G. F. Hill).

In Blackburn's table would be associated with *M. major* and *M. gibbicollis*; from the former it differs in being much smaller, prothorax more convex, with its sides conspicuously crenulated and more rounded; from the description of the latter in the front tibiae and sides of head; *M. tibialis*, also from nests of white ants, has the head and prothorax very differently sculptured, and abnormal hind tibiae. On one specimen, the space between the lateral notch and the apex on each side of the head is evenly oblique, but on three others there is a feeble rounded projection on each side there. The outlines of the head are very different from all those given in the Transactions of the Royal Society of South Australia for 1917 (Pl. xxxvii., figs. 88-107). From some directions the prothorax appears to be covered with large, flattened granules.

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Head with crowded, round, and rather shallow punctures. Clypeus with front angles elevated and filled with hair, the notch widely U-shaped. Prothorax with median line conspicuous throughout, but not very wide, each transverse sulcus rather deep, not traceable to middle, the side adjacent to it angularly dilated; punctures much as on head, but sparser adjacent to the median line. Scutellum highly polished and impunctate. Elytra with dense, asperate punctures, rather large, but not sharply defined, several interstices feebly elevated. Pygidium with dense and rather small punctures, an almost impunctate median line, the tip with a coppery gloss. Front tibiae bidentate, three basal joints of front tarsi much wider than long, and densely padded on under surface. Length, 8-8.5 mm.

Hab.—Queensland: National Park in December (H. Hacker and R. Illidge).

The median line of the pronotum is neither narrow nor shallow, being much as on the species identified by Blackburn as *D. ignota*, which, however, he referred to A.B. in his table of the genus; from that species it differs in having the head smaller, clothing slightly longer and paler, hind tarsi darker, and elytra reddish;

the head is smaller than in *D. richmondia*, and is without the deep sub-basal depression of that species; the head is also smaller than in *D. nitidicollis*, and the median line of the prothorax is narrower. The elytra, from some directions, appear to be densely and finely granulate-punctate or rather coarsely shagreened, so that the seriate punctures are not sharply defined. Of eight specimens under examination, seven have the elytra distinctly reddish (as they occasionally are in *D. richmondia*), but on the eighth they appear at most to be obscurely diluted with red.

DIPHUCEPHALA CRIBRIPENNIS, n.sp.

♂. Bright metallic coppery-green; antennae (club blackish), palpi, and legs (knees slightly greenish, most of tarsi infuscated) reddish. Moderately densely clothed with pubescence, stramineous on upper surface, white on lower surface.

Head with crowded punctures. Clypeus with front angles strongly produced and filled with hair. Prothorax with median line shallow and rather feeble in front, almost disappearing posteriorly, transverse groove on each side fairly deep, not traceable to middle, side near each subangularly dilated; punctures large, shallow and mostly well defined near median line, crowded elsewhere. Scutellum with a few distinct punctures near apex. Elytra with deep and large, subquadrate punctures, close together; with several feeble longitudinal elevations. Pygidium with dense and small punctures, mostly concealed, except at apex. Front tibiae bidentate, tarsi long, second and third joint of front pair strongly transverse. Length, 5-5.5 mm.

♀. Differs in having the head smaller, with an obtuse swelling in middle, near clypeal suture, front angles of clypeus scarcely produced, abdomen larger and more convex, and legs much shorter, with no joint of front tarsi transverse.

Hab.—Queensland: Crow's Nest (R. Illidge).

In Blackburn's table would be associated with *D. rufipes*, but on that species the clothing of the upper surface is considerably stouter (nearer scales than pubescence), the clypeus is less dilated in front, and the legs of the male are longer, with wider front tarsi; it is also close to *D. tarsalis*, but the median line of the prothorax almost vanishes posteriorly, instead of being deep and wide near base, the tarsi are also darker; *D. puberula* is slightly larger, with very different clothing; *D. nitens* is highly polished; all the other red-legged species are considerably larger.

DIPHUCEPHALA MACROPS, n.sp.

Purple; median line of prothorax, scutellum, pygidium, parts of under surface, hind femora, and most of middle ones green or coppery-green; elytra, antennae (except club), palpi (except apical joint), and most of legs reddish. parts of tarsi somewhat purplish. Upper surface with rather sparse hairs or long pubescence, becoming longer on sides, clothing of under surface shorter and paler.

Head rather small, with large irregular punctures. Clypeus almost thrice as wide as long, sides evenly rounded, front almost truncated; punctures much as on inter-ocular space. Eyes very large, extending from clypeal suture almost to prothorax, less than half on upper surface. Antennae eight, club three-jointed and small. Prothorax about two-thirds as long as wide, strongly convex, each side angularly dilated near a large and almost round sub-lateral fovea, from dilated part incurved to base and rounded to apex, median line deep and narrow; punctures large, irregularly distributed and rather sparse. Scutellum polished and almost impunctate. Elytra with large and irregular punctures, in places in

the head is smaller than in *D. richmondia*, and is without the deep sub-basal depression of that species; the head is also smaller than in *D. nitidicollis*, and the median line of the prothorax is narrower. The elytra, from some directions, appear to be densely and finely granulate-punctate or rather coarsely shagreened, so that the seriate punctures are not sharply defined. Of eight specimens under examination, seven have the elytra distinctly reddish (as they occasionally are in *D. richmondia*), but on the eighth they appear at most to be obscurely diluted with red.

DIPHUCEPHALA CRIBRIPENNIS, n.sp.

♂. Bright metallic coppery-green; antennae (club blackish), palpi, and legs (knees slightly greenish, most of tarsi infuscated) reddish. Moderately densely clothed with pubescence, stramineous on upper surface, white on lower surface.

Head with crowded punctures. Clypeus with front angles strongly produced and filled with hair. Prothorax with median line shallow and rather feeble in front, almost disappearing posteriorly, transverse groove on each side fairly deep, not traceable to middle, side near each subangularly dilated; punctures large, shallow and mostly well defined near median line, crowded elsewhere. Scutellum with a few distinct punctures near apex. Elytra with deep and large, subquadrate punctures, close together; with several feeble longitudinal elevations. Pygidium with dense and small punctures, mostly concealed, except at apex. Front tibiae bidentate, tarsi long, second and third joint of front pair strongly transverse. Length, 5-5.5 mm.

♀. Differs in having the head smaller, with an obtuse swelling in middle, near clypeal suture, front angles of clypeus scarcely produced, abdomen larger and more convex, and legs much shorter, with no joint of front tarsi transverse.

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Purple; median line of prothorax, scutellum, pygidium, parts of under surface, hind femora, and most of middle ones green or coppery-green; elytra, antennae (except club), palpi (except apical joint), and most of legs reddish. parts of tarsi somewhat purplish. Upper surface with rather sparse hairs or long pubescence, becoming longer on sides, clothing of under surface shorter and paler.

Head rather small, with large irregular punctures. Clypeus almost thrice as wide as long, sides evenly rounded, front almost truncated; punctures much as on inter-ocular space. Eyes very large, extending from clypeal suture almost to prothorax, less than half on upper surface. Antennae eight, club three-jointed and small. Prothorax about two-thirds as long as wide, strongly convex, each side angularly dilated near a large and almost round sub-lateral fovea, from dilated part incurved to base and rounded to apex, median line deep and narrow; punctures large, irregularly distributed and rather sparse. Scutellum polished and almost impunctate. Elytra with large and irregular punctures, in places in

irregular striae. Pygidium with dense punctures. Hind femora much stouter than the others; front tibiae strongly bidentate, basal joint of front tarsi as long as three following combined, each of these longer than wide, claws each with a large, acute appendix. Length, 7 mm.

Hab.—New South Wales (W. Du Boulay).

The very large eyes and short and wide clypeus, truncated in front, are very different from all previously described species of *Diphucephala*; but as the type (judging by its front tarsi) is presumably a female, it seems undesirable to propose a new genus for it; in the allied genus, *Cunderdina*, the antennae are nine-jointed.

NEOHETERONYX.

The monotypic species of *Neoheteronyx* (*N. lividus*) was characterised as distinct from *Heteronyx* by the mentum being strongly convex and narrower, maxillary palpi long and thin, and front and middle tarsi of the male rather strongly dilated. It was also noted as having the antennae composed of eight joints (three forming the club); labrum altogether below the clypeus; eyes large and entire, hind coxae on sides shorter than second ventral segment, front tibiae of male bidentate and of female simple, and claws appendiculate. Also "The general facies is very similar to *Heteronyx* though the head looks disproportionately large." In the table given (Trans. Roy. Soc. S. Aust., 1898, p. 34) it was distinguished from *Heteronyx* by "Anterior four tarsi of male strongly dilated." and it was stated (ib., 1908, p. 367) that "The four anterior tarsi of the male in the unique known species of this genus are most remarkable, resembling those of a *Harpalus*." It will be seen, therefore, that the main feature relied upon for its generic distinction was a sexual one, and that this was so, is proved by the fact that when first revising *Heteronyx* (Proc. Linn. Soc. N.S. Wales, 1888, p. 1338) he [Blackburn] referred a closely allied species (*H. brevicollis*) to it, without expressed doubts as to its generic position; still later (Trans. Roy. Soc. S. Aust., 1910, p. 221) he described *H. coral*is (which, as will be noted, I consider a synonym of *brevicollis*) as a *Heteronyx* and said "I was disposed to consider it generically distinct from *Heteronyx*, but on further consideration its peculiar characters appear to me to be only exaggerations of what is to be found in species that certainly must not be separated from *Heteronyx*." I think that *N. lividus* should be regarded as belonging to a section of Group 2 of *Heteronyx* to which *brevicollis* and *coralis* were referred. There are before me ten other species, with the same large eyes and curious appearance of head as in *N. lividus*, with the front tibiae uni-, bi-, or tridentate, with the front and middle tarsi strongly or moderately inflated (or at least longer than usual) and densely clothed in the male, and quite clearly leading up to Group 2. Moreover, some of the characters mentioned by Blackburn are not quite in accordance with the facts: on the type female of *N. lividus* the front tibiae are not simple, but are bidentate (see figure 2) although the teeth are evidently worn; on two other females, the second tooth is sharp and quite well defined, although rather small, the part in front of it, the first tooth, is slightly longer than the basal joint of tarsi. The eyes also are not entire, as the sides of the clypeus are produced backwards over about one-fourth of their length (see figure 3), the produced parts being so directed that if continued they would meet the front angles of the prothorax. The species of the group have a distinct resemblance, usually on a smaller scale, to those of *Ocnodus*, some species of which also have dilated tarsi; but their middle and hind claws, although not always the front ones, are

irregular striae. Pygidium with dense punctures. Hind femora much stouter than the others; front tibiae strongly bidentate, basal joint of front tarsi as long as three following combined, each of these longer than wide, claws each with a large, acute appendix. Length, 7 mm.

Hab.—New South Wales (W. Du Boulay).

The very large eyes and short and wide clypeus, truncated in front, are very different from all previously described species of *Diphucephala*; but as the type (judging by its front tarsi) is presumably a female, it seems undesirable to propose a new genus for it; in the allied genus, *Cunderdina*, the antennae are nine-jointed.

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simple; their tibial teeth also vary in number. Although, as noted by Blackburn, the front tibiae of *Heteronyx* are nearly always tridentate, the third tooth is frequently very small, in some it is quite absent, and in a few they are distinctly unidentate. In *H. unidentatus*, from Groote Eylandt, in which the sexual differences of the front and middle tarsi are strongly pronounced, the front tibiae are unidentate in both sexes. Some species of *Heteronyx* have the mentum quite as convex, and the palpi as long and as thin. Unfortunately, in the same publication, and in the same year, he had previously given a *Heteronyx* the same specific name (Proc. Linn. Soc. N.S. Wales, 1889, p. 437 and p. 1255) so that on referring *N. lividus* to *Heteronyx* it becomes necessary to alter its name.

HETERONYX HARPALINUS, n. nom.

H. (Neoheteronyx) lividus Blackb., n.pr.

This new name is proposed for *Neoheteronyx lividus*, for which a change is necessary; see note (above) on *Neoheteronyx*.

HETERONYX BREVICOLLIS Blackb.

H. coxalis Blackb.

Closely allied to the preceding species, but with sides of clypeus differently curved about eyes, its median projection (viewed from behind) slightly more prominent, prothorax and elytra with somewhat coarser punctures, and elytral interstices feebly but moderately distinctly elevated. The type was from New South Wales, and other specimens from the same State agree closely with it; two specimens in the National Museum from the Howitt collection (without locality labels) differ from the type in being smaller, and with the median projection of the clypeus scarcely visible; a specimen labelled as from Tasmania (in the Macleay Museum) has the ridged appearance of the elytral interstices more conspicuous than usual; one from Bowen is slightly wider than the others, and has the elytral interstices without a ridged appearance, owing to the greater irregularity of their punctures; other Queensland specimens are from Mackay and Gayndah, the latter one was found amongst the duplicates in the Macleay Museum, but the species was certainly not described by Macleay when dealing with the Gayndah beetles.

I believe that *H. coxalis* was founded upon the same species (the type of *H. brevicollis* was in the Macleay Museum when *coxalis* was described), the strongly transverse prothorax, short hind coxae and long basal joint of hind tarsi are features common to *N. lividus* (now *H. harpalinus*) and all its close allies, and (in combination) found in no others of Group 2, or, in fact, elsewhere in the genus. In examining the type of *H. coxalis*, prior to its despatch to the British Museum, it was noted as being a small, short, coarsely punctured species, but at the time no specimen of *H. brevicollis* was available for comparison. The type of *H. brevicollis* is now before me (on loan), the basal angles of its prothorax, seen perpendicularly to themselves, are certainly slightly more than right angles, and are very feebly rounded off, but from the same point of view "*superne visis*," as noted for *coxalis*, they appear to be "sharply right angles." In the original description they were noted as "obtuse (somewhat roundly)" but the type now (as it probably was when described) has the basal angles pressed closely against the elytra so as to be partially concealed. The type is a female; the male has the front and middle tarsi slightly longer, wider, and more densely

simple; their tibial teeth also vary in number. Although, as noted by Blackburn, the front tibiae of *Heteronyx* are nearly always tridentate, the third tooth is frequently very small, in some it is quite absent, and in a few they are distinctly unidentate. In *H. unidentatus*, from Groote Eylandt, in which the sexual differences of the front and middle tarsi are strongly pronounced, the front tibiae are unidentate in both sexes. Some species of *Heteronyx* have the mentum quite as convex, and the palpi as long and as thin. Unfortunately, in the same publication, and in the same year, he had previously given a *Heteronyx* the same specific name (Proc. Linn. Soc. N.S. Wales, 1889, p. 437 and p. 1255) so that on referring *N. lividus* to *Heteronyx* it becomes necessary to alter its name.

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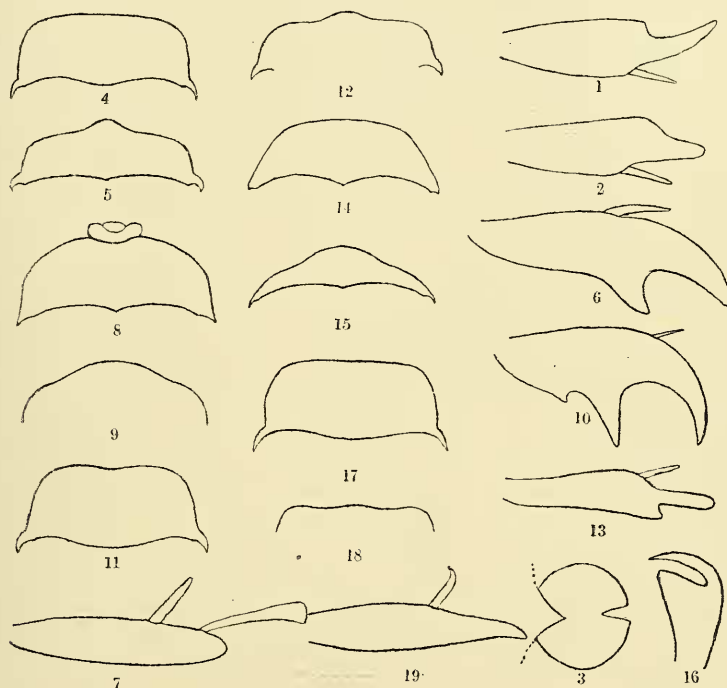
H. coxalis Blackb.

Closely allied to the preceding species, but with sides of clypeus differently curved about eyes, its median projection (viewed from behind) slightly more prominent, prothorax and elytra with somewhat coarser punctures, and elytral interstices feebly but moderately distinctly elevated. The type was from New South Wales, and other specimens from the same State agree closely with it; two specimens in the National Museum from the Howitt collection (without locality labels) differ from the type in being smaller, and with the median projection of the clypeus scarcely visible; a specimen labelled as from Tasmania (in the Macleay Museum) has the ridged appearance of the elytral interstices more conspicuous than usual; one from Bowen is slightly wider than the others, and has the elytral interstices without a ridged appearance, owing to the greater irregularity of their punctures; other Queensland specimens are from Mackay and Gayndah, the latter one was found amongst the duplicates in the Macleay Museum, but the species was certainly not described by Macleay when dealing with the Gayndah beetles.

I believe that *H. coxalis* was founded upon the same species (the type of *H. brevicollis* was in the Macleay Museum when *coxalis* was described), the strongly transverse prothorax, short hind coxae and long basal joint of hind tarsi are features common to *N. lividus* (now *H. harpalinus*) and all its close allies, and (in combination) found in no others of Group 2, or, in fact, elsewhere in the genus. In examining the type of *H. coxalis*, prior to its despatch to the British Museum, it was noted as being a small, short, coarsely punctured species, but at the time no specimen of *H. brevicollis* was available for comparison. The type of *H. brevicollis* is now before me (on loan), the basal angles of its prothorax, seen perpendicularly to themselves, are certainly slightly more than right angles, and are very feebly rounded off, but from the same point of view "*superne visis*," as noted for *coxalis*, they appear to be "sharply right angles." In the original description they were noted as "obtuse (somewhat roundly)" but the type now (as it probably was when described) has the basal angles pressed closely against the elytra so as to be partially concealed. The type is a female; the male has the front and middle tarsi slightly longer, wider, and more densely

clothed, and the hind femora subangularly dilated and with a few setae on the middle of its under surface (somewhat as on *H. noctivagus*).

H. setifer, with which *H. coxalis* was compared on account of the long basal joint of its hind tarsi, belongs to Group 4; on the type of *H. brevicollis* the basal joint is certainly not as long and as thin as in *H. setifer*, but it is at least half as long again as the second; and in all the allied species it is decidedly longer than the second.



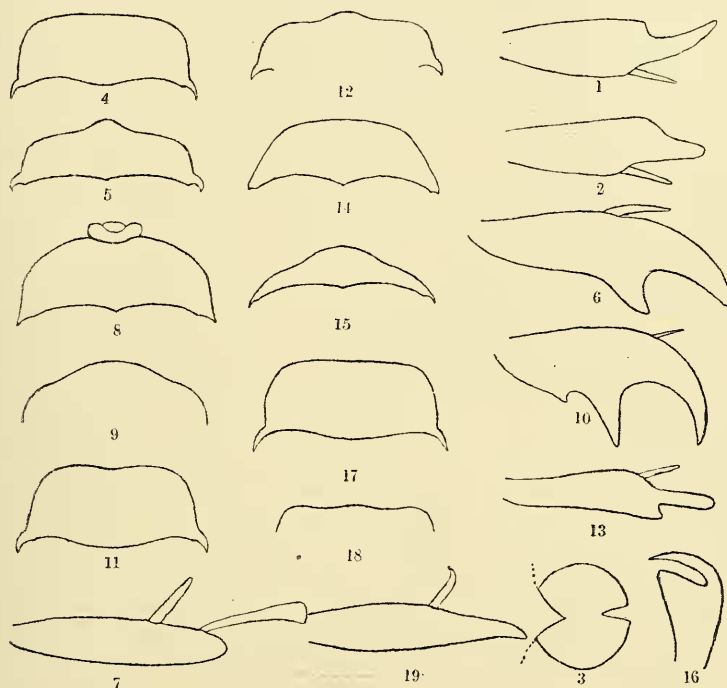
Text-figures 1-19. Parts of *Heteronyx*.

1. *H. harpalinus* Lea (*H. lividus* Blackb.), front tibia; 2. front tibia of type female, worn; 3. eye. 4, 5. *H. brevicollis* Blackb., clypeus from two points of view; 6. front tibia. 7. *H. cribifrons* Lea, front tibia and basal joint of tarsus. 8. *H. tridentatus* Lea, clypeus with portion of labrum and of mentum showing; 9. clypeus with suture invisible from behind; 10. front tibia. 11, 12. *H. clypealis* Lea, clypeus from two points of view; 13. front tibia. 14, 15. *H. inconstans* Lea, clypeus from two points of view; 16. hind claw. 17. *H. noctivagus* Lea, clypeus; 18. clypeus with suture invisible from behind. 19. *H. unidentatus* Lea, front tibia.

The following table deals only with *H. harpalinus*, *H. brevicollis* and other closely allied species, all having a characteristic appearance of the head and prothorax; in them the inflation of the front tarsi of the males varies from very pronounced to but little more than in the females, but, as with other sexual characters, has not been used in the table.

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The following table deals only with *H. harpalinus*, *H. brevicollis* and other closely allied species, all having a characteristic appearance of the head and prothorax; in them the inflation of the front tarsi of the males varies from very pronounced to but little more than in the females, but, as with other sexual characters, has not been used in the table.

- A. Front tibiae tridentate *tridentatus*.
- AA. Front tibiae unidentate.
 - a. A polished strip immediately behind clypeal suture *unidentatus*.
 - aa. Without such a strip. *cribrifrons*.
- AAA. Front tibiae bidentate.
 - B. Without a polished strip behind clypeal suture.
 - b. Clypeal margin strongly elevated in front. *clypealis*.
 - bb. Clypeal margin slightly elevated throughout. *phanophilus*.
 - BB. A polished strip immediately behind clypeal suture.
 - C. Scutellum with fairly numerous punctures.
 - c. Pale castaneous, approaching flavous. *harpalinus*.
 - cc. Dark castaneous or blackish. *inconstans*.
 - CC. Scutellum at most with sparse marginal punctures.
 - D. Prothoracic punctures smaller than on all others of AAA. *transversopolitus*.
 - DD. Prothoracic punctures of at least moderate size.
 - E. Front of clypeus (viewed from behind) feebly and evenly trilobed. *noctivagus*.
 - EE. Front (so viewed) slightly advanced in middle.
 - F. Median length of prothorax scarcely greater than that of sides. *brevicollis*.
 - FF. Median length notably greater *brevicoxis*.

HETERONYX CRIBRIFRONS, n.sp.

Reddish-castaneous; parts of under surface and of legs somewhat paler, antennae flavous.

Head large, with rather dense punctures of moderate size on frons, becoming denser and slightly larger on clypeus; clypeus with margins gently rounded and feebly upturned. Antennae eight-jointed. Prothorax about thrice as wide as the median length, front angles moderately produced, the hind ones slightly more than right angles, and not rounded off; punctures intermediate in density and size between those of frons and clypeus. Scutellum impunctate. Elytra with rather closely placed and mostly uneven rows of large punctures (about twenty rows on each elytron), the interspaces with a few minute punctures. Metasternum with crowded and coarse punctures on sides, almost impunctate in middle, sides more than twice the length of sides of hind coxae. Pygidium with coarse, crowded punctures. Front tibiae unidentate, basal joint of front tarsi thin, and about as long as three following combined, basal joint of hind tarsi almost as long as two following combined. Length, 7.25 mm.

Hab.—Queensland: Bowen (Aug. Simson).

Belongs to Blackburn's Group 2, and to the section represented by *H. brevicollis*; of the other closely allied species only *H. unidentatus* has unidentate front tibiae, and from that species it is distinct by its larger size, more parallel outlines, much denser punctures on pronotum and frons, larger elytral punctures, etc. The upper surface of the type (except for the lateral fringes) is now quite glabrous, and was probably never distinctly clothed, the pygidium has numerous hairs. The frons, immediately behind the clypeal suture, is without a shining impunctate strip, as on many of the closely allied species; the clypeus, from no direction appears to have a frontal elevation; the elytral punctures are decidedly large, so that the rows, of which there are about twenty on each elytron, are rather close together, but on the apical slope they are smaller, sparser, and irregular; the under surface of the front femora is finely serrated near the base;

- A. Front tibiae tridentate *tridentatus*.
- AA. Front tibiae unidentate.
 - a. A polished strip immediately behind clypeal suture *unidentatus*.
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- AAA. Front tibiae bidentate.
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 - D. Prothoracic punctures smaller than on all others of AAA. *transversopolitus*.
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 - F. Median length of prothorax scarcely greater than that of sides. *brevicollis*.
 - FF. Median length notably greater *brevicoxis*.

HETERONYX CRIBRIFRONS, n.sp.

Reddish-castaneous; parts of under surface and of legs somewhat paler, antennae flavous.

Head large, with rather dense punctures of moderate size on frons, becoming denser and slightly larger on clypeus; clypeus with margins gently rounded and feebly upturned. Antennae eight-jointed. Prothorax about thrice as wide as the median length, front angles moderately produced, the hind ones slightly more than right angles, and not rounded off; punctures intermediate in density and size between those of frons and clypeus. Scutellum impunctate. Elytra with rather closely placed and mostly uneven rows of large punctures (about twenty rows on each elytron), the interspaces with a few minute punctures. Metasternum with crowded and coarse punctures on sides, almost impunctate in middle, sides more than twice the length of sides of hind coxae. Pygidium with coarse, crowded punctures. Front tibiae unidentate, basal joint of front tarsi thin, and about as long as three following combined, basal joint of hind tarsi almost as long as two following combined. Length, 7.25 mm.

Hab.—Queensland: Bowen (Aug. Simson).

Belongs to Blackburn's Group 2, and to the section represented by *H. brevicollis*; of the other closely allied species only *H. unidentatus* has unidentate front tibiae, and from that species it is distinct by its larger size, more parallel outlines, much denser punctures on pronotum and frons, larger elytral punctures, etc. The upper surface of the type (except for the lateral fringes) is now quite glabrous, and was probably never distinctly clothed, the pygidium has numerous hairs. The frons, immediately behind the clypeal suture, is without a shining impunctate strip, as on many of the closely allied species; the clypeus, from no direction appears to have a frontal elevation; the elytral punctures are decidedly large, so that the rows, of which there are about twenty on each elytron, are rather close together, but on the apical slope they are smaller, sparser, and irregular; the under surface of the front femora is finely serrated near the base;

the front tibiae are possibly somewhat worn, but they are now certainly unidentate.

HETERONYX TRIDENTATUS, n.sp.

Pale reddish-castaneous; elytra, abdomen, antennae, and parts of legs still paler.

Head rather large, frons and clypeus not on separate planes; frons with fairly large punctures near the base, becoming crowded at clypeal suture; clypeus itself with densely crowded punctures, its margin gently elevated, the middle lightly incurved. Antennae eight-jointed. Prothorax about thrice as wide as the median length, front angles moderately produced, hind ones rounded and obtuse (from above appearing sharply rectangular), punctures fairly large and numerous, although not dense, becoming smaller and sparser on sides. Scutellum densely punctate. Elytra with rather large and asperate (or squamose) punctures towards base, becoming smaller and sparser, but still fairly large posteriorly, sub-sutural and lateral striae distinct, the others feeble or absent. Metasternum with dense and moderately large punctures, becoming sparser and smaller in middle, sides about twice as long as sides of hind coxae. Pygidium with punctures much as on hind coxae, becoming smaller about apex; with a rather large shallow depression on each side of base, middle ridged posteriorly. Front tibiae strongly tridentate, hind tooth rather small but acute, the others long and sharp, the apical rather short and thin; front tarsi long and thin, especially the claw joint, claws each with a large basal appendix. Length, 7 mm.

Hab.—Central Australia: Macdonnell Ranges (Capt. S. A. White).

In Blackburn's table of Group 2 would be placed with *H. torvus* and *H. hispidulus*, to neither of which is it at all close, being allied to *H. brevicollis*, despite its tridentate front tibiae. The pubescence of the upper surface is very short, sparse and inconspicuous, but even so is more distinct than on others of the close allies of *H. brevicollis*, the fringes are rather feeble; the metasternum has some long pale hairs in front, the pygidium, except for the marginal fringe, is glabrous. The front of the clypeus, from a right angle, is seen to be slightly incurved, from behind the middle appears to be obtusely projecting; its front face is densely punctate, as is also the labrum; the mentum is strongly convex, but its front face is conspicuously concave. The apical membrane of the prothorax is extremely short behind the eyes and scarcely visible elsewhere, the one at the apex of the elytra is well defined, although rather short. The hind tarsi are missing but are probably similar to the middle ones, in which the basal joint is decidedly longer than the second.

HETERONYX CLYPEALIS, n.sp.

Reddish-castaneous; antennae and parts of under surface and of legs paler.

Head large, with fairly large and dense punctures, becoming crowded on clypeus; clypeus rather long, front truncated and strongly upturned, sides moderately upturned and deflected at eyes. Antennae eight-jointed. Prothorax about twice and one half as wide as the median length, sides sub-angularly dilated in middle, front angles acutely produced, hind ones not at all rounded off and slightly more than right angles (from above appearing sharply rectangular), base and apex bisinuate; with large and dense, but not crowded, punctures. Scutellum with a few punctures. Elytra with large punctures, mostly in irregular series (about twenty on each elytron), but somewhat smaller and crowded about suture and apex. Metasternum with dense and large punctures, becoming sparse

the front tibiae are possibly somewhat worn, but they are now certainly unidentate.

HETERONYX TRIDENTATUS, n.sp.

Pale reddish-castaneous; elytra, abdomen, antennae, and parts of legs still paler.

Head rather large, frons and clypeus not on separate planes; frons with fairly large punctures near the base, becoming crowded at clypeal suture; clypeus itself with densely crowded punctures, its margin gently elevated, the middle lightly incurved. Antennae eight-jointed. Prothorax about thrice as wide as the median length, front angles moderately produced, hind ones rounded and obtuse (from above appearing sharply rectangular), punctures fairly large and numerous, although not dense, becoming smaller and sparser on sides. Scutellum densely punctate. Elytra with rather large and asperate (or squamose) punctures towards base, becoming smaller and sparser, but still fairly large posteriorly, sub-sutural and lateral striae distinct, the others feeble or absent. Metasternum with dense and moderately large punctures, becoming sparser and smaller in middle, sides about twice as long as sides of hind coxae. Pygidium with punctures much as on hind coxae, becoming smaller about apex; with a rather large shallow depression on each side of base, middle ridged posteriorly. Front tibiae strongly tridentate, hind tooth rather small but acute, the others long and sharp, the apical rather short and thin; front tarsi long and thin, especially the claw joint, claws each with a large basal appendix. Length, 7 mm.

Hab.—Central Australia: Macdonnell Ranges (Capt. S. A. White).

In Blackburn's table of Group 2 would be placed with *H. torvus* and *H. hispidulus*, to neither of which is it at all close, being allied to *H. brevicollis*, despite its tridentate front tibiae. The pubescence of the upper surface is very short, sparse and inconspicuous, but even so is more distinct than on others of the close allies of *H. brevicollis*, the fringes are rather feeble; the metasternum has some long pale hairs in front, the pygidium, except for the marginal fringe, is glabrous. The front of the clypeus, from a right angle, is seen to be slightly incurved, from behind the middle appears to be obtusely projecting; its front face is densely punctate, as is also the labrum; the mentum is strongly convex, but its front face is conspicuously concave. The apical membrane of the prothorax is extremely short behind the eyes and scarcely visible elsewhere, the one at the apex of the elytra is well defined, although rather short. The hind tarsi are missing but are probably similar to the middle ones, in which the basal joint is decidedly longer than the second.

HETERONYX CLYPEALIS, n.sp.

Reddish-castaneous; antennae and parts of under surface and of legs paler.

Head large, with fairly large and dense punctures, becoming crowded on clypeus; clypeus rather long, front truncated and strongly upturned, sides moderately upturned and deflected at eyes. Antennae eight-jointed. Prothorax about twice and one half as wide as the median length, sides sub-angularly dilated in middle, front angles acutely produced, hind ones not at all rounded off and slightly more than right angles (from above appearing sharply rectangular), base and apex bisinuate; with large and dense, but not crowded, punctures. Scutellum with a few punctures. Elytra with large punctures, mostly in irregular series (about twenty on each elytron), but somewhat smaller and crowded about suture and apex. Metasternum with dense and large punctures, becoming sparse

in middle, sides fully thrice the length of sides of hind coxae. Pygidium with coarse crowded punctures. Front tibiae bidentate, front tarsi dilated and rather densely padded on under surface; hind femora subangularly dilated in middle of under surface, basal joint of hind tarsi almost twice the length of second claws, appendiculate. Length, 7 mm.

Hab.—Tasmania. Type in Macleay Museum.

Belongs to Blackburn's Group 2, and has the large globular eyes, short hind coxae and long basal joint of hind tarsi of *H. brevicollis* and its close allies; the clypeus is more strongly upturned in front than on the closely allied species; from the usual point of view it appears to have the apex truncated; changing the point of view to a more forward one it appears feebly incurved to the middle and in consequence feebly bilobed (fig. 11); passing backwards, the view alters, so that the middle appears slightly projecting (fig. 12), somewhat as on *brevicollis*, or with the apex trilobed; on the present species the second tooth of the front tibia, seen at right angles, appears to be due mostly to the sudden notching of the tibia near the apex; on *H. brevicollis* it appears as a conspicuous projection. The hind femora could scarcely be regarded as dentate, although the subangulate appearance of its middle is quite distinct, and is somewhat enhanced by a few setae; the middle tarsi are rather strongly inflated, but less so than the front ones, the hind claws are missing, but each of the others has a large, obtuse, basal appendix; on this, as on others of the close allies of *H. brevicollis*, the clothing of the onychium on each claw joint is rather dense, so that it is not always easy to see the shape of the claws, but they are always appendiculate, the appendix large and membranous. The upper surface of the type (except for the lateral fringes) is now entirely glabrous; it is evidently a male, probably the female has simple hind femora and less strongly dilated tarsi.

HETERONYX PHANOPHILUS, n.sp.

Castaneous; elytra, under surface, and legs slightly paler than prothorax, antennae flavous. Upper surface glabrous, except for marginal fringes, lower surface sparsely clothed.

Head rather large, with dense punctures of moderate size and individually distinct, slightly larger and denser, but otherwise much the same, on clypeus; clypeus on an even convexity with frons, margin slightly upturned and gently rounded. Antennae eight-jointed. Prothorax almost thrice as wide as the median length, front angles produced, hind ones obtuse, but not rounded (from above appearing sharply rectangular); punctures as large and almost as dense as on frons. Scutellum impunctate. Elytra with large punctures, mostly irregular, but in places with a distinctly lineate arrangement, about twenty-five irregular rows on each elytron. Metasternum with dense punctures, becoming sparse in middle; sides more than twice the length of sides of hind coxae. Pygidium with crowded punctures, about as large as on pronotum. Front femora finely serrated on part of under surface; front tibiae bidentate; basal joint of hind and middle tarsi about once and one half the length of the second, of the front tarsi thin and more than twice the length of the second; claws appendiculate. Length, 5.5-7 mm.

Hab.—Queensland: Cairns district, abundant at lights (H. Hacker, Dr. J. F. Illingworth and A. M. Lea), Kuranda (R. W. Armitage, in National Museum).

Allied to *H. brevicollis*, of Group 2, and at first glance looking like small specimens of *Ocnodus*, but the claws not simple. The front and middle tarsi are

in middle, sides fully thrice the length of sides of hind coxae. Pygidium with coarse crowded punctures. Front tibiae bidentate, front tarsi dilated and rather densely padded on under surface; hind femora subangularly dilated in middle of under surface, basal joint of hind tarsi almost twice the length of second claws, appendiculate. Length, 7 mm.

Hab.—Tasmania. Type in Macleay Museum.

Belongs to Blackburn's Group 2, and has the large globular eyes, short hind coxae and long basal joint of hind tarsi of *H. brevicollis* and its close allies; the clypeus is more strongly upturned in front than on the closely allied species; from the usual point of view it appears to have the apex truncated; changing the point of view to a more forward one it appears feebly incurved to the middle and in consequence feebly bilobed (fig. 11); passing backwards, the view alters, so that the middle appears slightly projecting (fig. 12), somewhat as on *brevicollis*, or with the apex trilobed; on the present species the second tooth of the front tibia, seen at right angles, appears to be due mostly to the sudden notching of the tibia near the apex; on *H. brevicollis* it appears as a conspicuous projection. The hind femora could scarcely be regarded as dentate, although the subangulate appearance of its middle is quite distinct, and is somewhat enhanced by a few setae; the middle tarsi are rather strongly inflated, but less so than the front ones, the hind claws are missing, but each of the others has a large, obtuse, basal appendix; on this, as on others of the close allies of *H. brevicollis*, the clothing of the onychium on each claw joint is rather dense, so that it is not always easy to see the shape of the claws, but they are always appendiculate, the appendix large and membranous. The upper surface of the type (except for the lateral fringes) is now entirely glabrous; it is evidently a male, probably the female has simple hind femora and less strongly dilated tarsi.

HETERONYX PHANOPHILUS, n.sp.

Castaneous; elytra, under surface, and legs slightly paler than prothorax, antennae flavous. Upper surface glabrous, except for marginal fringes, lower surface sparsely clothed.

Head rather large, with dense punctures of moderate size and individually distinct, slightly larger and denser, but otherwise much the same, on clypeus; clypeus on an even convexity with frons, margin slightly upturned and gently rounded. Antennae eight-jointed. Prothorax almost thrice as wide as the median length, front angles produced, hind ones obtuse, but not rounded (from above appearing sharply rectangular); punctures as large and almost as dense as on frons. Scutellum impunctate. Elytra with large punctures, mostly irregular, but in places with a distinctly lineate arrangement, about twenty-five irregular rows on each elytron. Metasternum with dense punctures, becoming sparse in middle; sides more than twice the length of sides of hind coxae. Pygidium with crowded punctures, about as large as on pronotum. Front femora finely serrated on part of under surface; front tibiae bidentate; basal joint of hind and middle tarsi about once and one half the length of the second, of the front tarsi thin and more than twice the length of the second; claws appendiculate. Length, 5.5-7 mm.

Hab.—Queensland: Cairns district, abundant at lights (H. Hacker, Dr. J. F. Illingworth and A. M. Lea), Kuranda (R. W. Armitage, in National Museum).

Allied to *H. brevicollis*, of Group 2, and at first glance looking like small specimens of *Ocnodus*, but the claws not simple. The front and middle tarsi are

not conspicuously inflated and padded as on several of the close allies of *H. brevicollis*, but they are slightly larger and rather more densely clothed than on the female; the club of the antennae is also slightly the larger on the male. The serrations of the front femora average about six, with a seta between each pair, but some manipulation is necessary for them to be seen clearly. The clypeus, perpendicularly to itself, appears to have the front truncated and the sides oblique, but from the usual point of view its margin appears to be gently rounded; immediately behind its suture the frons is without a narrow polished impunctate strip; although the punctures on the head are very dense they are scarcely crowded, as each is individually distinct and not confluent with any of the adjacent ones; there is a feeble transverse impression on each side of the prothorax of most of the specimens, but it could be easily overlooked. The prothoracic membrane is very short behind the eyes, and not traceable elsewhere; the elytra are without an apical one. The general colour is of a rather bright reddish-castaneous; some specimens are of a rather dark brown, on one of the larger specimens the head and prothorax are almost black, a few small ones are pale castaneous, but the elytra are always paler than the prothorax.

HETERONYX BREVICOXIS, n.sp.

Almost black; elytra blackish-brown, parts of under surface and of legs obscurely paler, antennae and palpi pale castaneous, club flavous. Upper surface glabrous, except for straggling lateral fringes.

Head rather large and convex, with sharply defined and moderately dense punctures, becoming larger and crowded on clypeus, a narrow shining and almost impunctate strip immediately behind clypeal suture. Clypeus with outer margin rounded and slightly upturned. Antennae eight-jointed. Prothorax about thrice as wide as the median length, front angles moderately produced, hind ones slightly obtuse, but not rounded off (from above appearing sharply rectangular); punctures about as large as on back part of head, and moderately dense, but not crowded, becoming sparser on sides. Sentellum impunctate. Elytra with large punctures in more or less regular rows (about twenty on each elytron), but becoming irregular about apex. Metasternum with dense punctures, becoming sparse in middle, sides thrice the length of sides of hind coxae. Pygidium with larger and somewhat denser punctures than on pronotum. Front femora finely serrated on under surface; front tibiae bidentate; basal joint of hind tarsi about twice as long as second; claws appendiculate. Length, 7.8 mm.

Hab.—Queensland: Cairns and Kuranda (H. Hacker), Mossman (Dr. J. F. Illingworth).

Allied to *H. brevicollis*, of Group 2, and in general appearance quite close to *Ocnodus unidentatus*, but claws not simple; from the larger and darker specimens of the preceding species it is distinguished by the shining strip behind the clypeal suture; the punctures on the pronotum and frons are denser than usual, but not as dense as on that species. The base of the prothorax is but feebly bisinuate, but the median lobe projects backwards more than is usual in the close allies of *H. brevicollis*. Viewed perpendicularly, the clypeus appears to be truncated across the apex, with oblique sides, but from behind its slightly raised margin appears almost semi-circular, with the middle feebly produced; although the lineate arrangement of the elytral punctures is quite distinct, and sometimes two rows seem almost regularly geminate, no row is even throughout. The elytra are without an apical membrane; on the pronotum the membrane is very

not conspicuously inflated and padded as on several of the close allies of *H. brevicollis*, but they are slightly larger and rather more densely clothed than on the female; the club of the antennae is also slightly the larger on the male. The serrations of the front femora average about six, with a seta between each pair, but some manipulation is necessary for them to be seen clearly. The clypeus, perpendicularly to itself, appears to have the front truncated and the sides oblique, but from the usual point of view its margin appears to be gently rounded; immediately behind its suture the frons is without a narrow polished impunctate strip; although the punctures on the head are very dense they are scarcely crowded, as each is individually distinct and not confluent with any of the adjacent ones; there is a feeble transverse impression on each side of the prothorax of most of the specimens, but it could be easily overlooked. The prothoracic membrane is very short behind the eyes, and not traceable elsewhere; the elytra are without an apical one. The general colour is of a rather bright reddish-castaneous; some specimens are of a rather dark brown, on one of the larger specimens the head and prothorax are almost black, a few small ones are pale castaneous, but the elytra are always paler than the prothorax.

HETERONYX BREVICOXIS, n.sp.

Almost black; elytra blackish-brown, parts of under surface and of legs obscurely paler, antennae and palpi pale castaneous, club flavous. Upper surface glabrous, except for straggling lateral fringes.

Head rather large and convex, with sharply defined and moderately dense punctures, becoming larger and crowded on clypeus, a narrow shining and almost impunctate strip immediately behind clypeal suture. Clypeus with outer margin rounded and slightly upturned. Antennae eight-jointed. Prothorax about thrice as wide as the median length, front angles moderately produced, hind ones slightly obtuse, but not rounded off (from above appearing sharply rectangular); punctures about as large as on back part of head, and moderately dense, but not crowded, becoming sparser on sides. Sentellum impunctate. Elytra with large punctures in more or less regular rows (about twenty on each elytron), but becoming irregular about apex. Metasternum with dense punctures, becoming sparse in middle, sides thrice the length of sides of hind coxae. Pygidium with larger and somewhat denser punctures than on pronotum. Front femora finely serrated on under surface; front tibiae bidentate; basal joint of hind tarsi about twice as long as second; claws appendiculate. Length, 7.8 mm.

Hab.—Queensland: Cairns and Kuranda (H. Hacker), Mossman (Dr. J. F. Illingworth).

Allied to *H. brevicollis*, of Group 2, and in general appearance quite close to *Ocnodus unidentatus*, but claws not simple; from the larger and darker specimens of the preceding species it is distinguished by the shining strip behind the clypeal suture; the punctures on the pronotum and frons are denser than usual, but not as dense as on that species. The base of the prothorax is but feebly bisinuate, but the median lobe projects backwards more than is usual in the close allies of *H. brevicollis*. Viewed perpendicularly, the clypeus appears to be truncated across the apex, with oblique sides, but from behind its slightly raised margin appears almost semi-circular, with the middle feebly produced; although the lineate arrangement of the elytral punctures is quite distinct, and sometimes two rows seem almost regularly geminate, no row is even throughout. The elytra are without an apical membrane; on the pronotum the membrane is very

short behind the eyes, and not traceable elsewhere. Two specimens, from Kuranda, are rather smaller and paler (dark reddish-castaneous) than the type, and have a few small punctures on the sides of the scutellum, but otherwise they agree well with it.

HETERONYX INCONSTANS, n.sp.

Black or blackish; parts of under surface paler, legs pale castaneous, antennae flavous. Upper surface glabrous, except for feeble lateral fringes, metasternum glabrous, except for a few median setae.

Head rather large and convex, with sharply defined punctures of moderate size and fairly dense, but evenly spaced, a polished impunctate strip behind clypeal suture; clypeus with outer margin slightly upturned and semi-circular, punctures larger and closer together than on frons, although not confluent. Antennae eight-jointed. Prothorax fully thrice as wide as the median length, front angles acute, hind ones slightly more than right angles, but appearing acutely rectangular from above, punctures slightly larger, sparser and less evenly spaced than on frons. Scutellum with fairly numerous and small sharply defined punctures. Elytra with more or less regular rows (less than twenty on each elytron) of fairly large punctures, smaller close to suture than elsewhere, and irregular on apical slope. Metasternum with dense punctures, becoming sparse in middle; sides almost thrice the length of sides of hind coxae. Pygidium with crowded punctures. Front femora feebly serrated on part of lower surface; front tibiae bidentate; hind tarsi with basal joint about once and one half the length of second; claws each with a large basal appendix. Length, 6-7 mm.

Hab.—Queensland: Coen River (W. D. Dodd and H. Hacker), Stewart River (Dodd).

A black or blackish species, allied to *H. brevicollis*, of Group 2; from the preceding species it differs in being smaller, with sparser punctures, and elytra less parallel-sided. The male has more numerous setae on the under surface of the front tarsi, but otherwise there appear to be no external distinctions of sex on the eight specimens under examination. Seen from behind, the front of the clypeus appears to be very feebly trilobed, the median lobe sometimes slightly advanced. One specimen has the upper surface entirely black, on one only the scutellum is obscurely reddish, on another the scutellum and a spot on each side of pronotum are obscurely reddish, on one the upper surface is dark piceous-brown, but the prothoracic margins, shoulders, and scutellum are reddish; one has the upper surface entirely bright castaneous; the metasternum and elytral epipleurae are usually paler than the abdomen.

HETERONYX NOCTIVAGUS, n.sp.

Bright castaneous, under surface and legs somewhat paler than upper surface, antennae flavous. Upper surface glabrous, except for loose marginal fringes.

Head rather large and convex, with fairly large, evenly spaced, and moderately dense punctures, but absent from a narrow shining strip immediately behind clypeal suture; clypeus with margins feebly elevated, truncated across apex; punctures denser and somewhat larger than on frons, but not confluent. Antennae eight-jointed. Prothorax thrice as wide as long, front angles acute, hind ones somewhat obtuse (appearing sharply rectangular from above); punctures about as large as on frons, but less numerous, an impunctate median line on basal half. Scutellum impunctate or almost so. Elytra with larger punctures than on pronotum, and mostly in rows (about twenty on each elytron), which

short behind the eyes, and not traceable elsewhere. Two specimens, from Kuranda, are rather smaller and paler (dark reddish-castaneous) than the type, and have a few small punctures on the sides of the scutellum, but otherwise they agree well with it.

HETERONYX INCONSTANS, n.sp.

Black or blackish; parts of under surface paler, legs pale castaneous, antennae flavous. Upper surface glabrous, except for feeble lateral fringes, metasternum glabrous, except for a few median setae.

Head rather large and convex, with sharply defined punctures of moderate size and fairly dense, but evenly spaced, a polished impunctate strip behind clypeal suture; clypeus with outer margin slightly upturned and semi-circular, punctures larger and closer together than on frons, although not confluent. Antennae eight-jointed. Prothorax fully thrice as wide as the median length, front angles acute, hind ones slightly more than right angles, but appearing acutely rectangular from above, punctures slightly larger, sparser and less evenly spaced than on frons. Scutellum with fairly numerous and small sharply defined punctures. Elytra with more or less regular rows (less than twenty on each elytron) of fairly large punctures, smaller close to suture than elsewhere, and irregular on apical slope. Metasternum with dense punctures, becoming sparse in middle; sides almost thrice the length of sides of hind coxae. Pygidium with crowded punctures. Front femora feebly serrated on part of lower surface; front tibiae bidentate; hind tarsi with basal joint about once and one half the length of second; claws each with a large basal appendix. Length, 6-7 mm.

Hab.—Queensland: Coen River (W. D. Dodd and H. Hacker), Stewart River (Dodd).

A black or blackish species, allied to *H. brevicollis*, of Group 2; from the preceding species it differs in being smaller, with sparser punctures, and elytra less parallel-sided. The male has more numerous setae on the under surface of the front tarsi, but otherwise there appear to be no external distinctions of sex on the eight specimens under examination. Seen from behind, the front of the clypeus appears to be very feebly trilobed, the median lobe sometimes slightly advanced. One specimen has the upper surface entirely black, on one only the scutellum is obscurely reddish, on another the scutellum and a spot on each side of pronotum are obscurely reddish, on one the upper surface is dark piceous-brown, but the prothoracic margins, shoulders, and scutellum are reddish; one has the upper surface entirely bright castaneous; the metasternum and elytral epipleurae are usually paler than the abdomen.

HETERONYX NOCTIVAGUS, n.sp.

Bright castaneous, under surface and legs somewhat paler than upper surface, antennae flavous. Upper surface glabrous, except for loose marginal fringes.

Head rather large and convex, with fairly large, evenly spaced, and moderately dense punctures, but absent from a narrow shining strip immediately behind clypeal suture; clypeus with margins feebly elevated, truncated across apex; punctures denser and somewhat larger than on frons, but not confluent. Antennae eight-jointed. Prothorax thrice as wide as long, front angles acute, hind ones somewhat obtuse (appearing sharply rectangular from above); punctures about as large as on frons, but less numerous, an impunctate median line on basal half. Scutellum impunctate or almost so. Elytra with larger punctures than on pronotum, and mostly in rows (about twenty on each elytron), which

in places are quite regular, but very irregular about sides, apex and suture. Metasternum with crowded sub-asperate punctures, becoming sparse in middle; sides more than twice as long as sides of hind coxae. Pygidium with rather large and dense punctures. Front femora slightly serrated on middle of under surface, front tibiae bidentate; hind femora sub-angulate at middle of under surface and with a loose fascicle there; basal joint of each tarsus distinctly longer than second, each claw with a large basal appendix. Length, 5.5-6 mm.

Hab.—Queensland: Cairns, to lights (Dr. J. F. Illingworth).

Allied to *H. brevicollis*, of Group 2; that species is a consistently paler one, with the median projection of the clypeus (viewed from behind) more conspicuous and in advance of the lateral ones, the punctures coarser and more irregular, and the second tooth of the front tibiae larger and more projecting; *H. harpalinus* has also the median projection (viewed from behind) more advanced, and with coarser punctures on the pronotum and elytra. The clypeus, as viewed from behind, appears feebly trilobed, but the lateral lobes not posterior to the median one, as on *H. inconstans* when so viewed, its base (ocular canthus) on each side also projects distinctly outwards on a separate curve. The feeble angulation of the hind femora (a masculine feature) is rendered quite conspicuous by the loose fascicle and is somewhat suggestive of *H. clypealis*, but the clypeus is very different; on the present species its marginal elevation is nowhere very high, but is distinctly higher at the front angles than in the middle; on that species the elevation is greatest at the middle, and the elevated part averages almost thrice that of the present species; there are numerous other differences in the outlines, punctures, etc. Three specimens, all males, are under examination; their front and middle tarsi are slightly dilated and are rather densely padded, but much less so than on the males of *H. unidentatus*.

HETERONYX TRANSVERSOPOLITUS, n.sp.

Dark castaneous-brown; under surface and legs somewhat paler, antennae flavous. Upper surface glabrous, except for straggling lateral fringes.

Head rather large and convex; frons with rather sparse and not very large, but sharply defined, punctures, a narrow polished impunctate strip immediately behind clypeal suture; clypeus with larger and crowded punctures, margin slightly elevated. Antennae eight-jointed. Prothorax thrice as wide as the median length, front angles produced and acute, hind ones obtuse (from above, appearing sharply rectangular); punctures sparser and smaller than on frons. Scutellum with marginal punctures. Elytra somewhat dilated posteriorly, with large punctures in places in fairly regular rows (about twenty on each elytron). Metasternum with crowded punctures, becoming sparse in middle, sides thrice as long as sides of hind coxae. Pygidium with dense and rather large punctures. Front femora with a serrated, sub-dentiform projection in middle of under surface; front tibiae bidentate, the second tooth close to the first; front tarsi longer and thinner than the others; basal joint of each tarsus much longer than the second; each claw with a large, obtuse appendix. Length, 7-8 mm.

Hab.—Queensland: Innisfail (Dr. J. F. Illingworth), Cairns (H. Hacker).

Allied to *H. brevicollis*, of Group 2, and, of the closely allied species with bidentate front tibiae, it is distinguished by the comparatively sparse and small, although sharply defined, punctures on the frons, and the still smaller and sparser ones on the pronotum; it is rather more dilated posteriorly than the others, except *H. inconstans*, which is a smaller species, with larger punctures on the disc

in places are quite regular, but very irregular about sides, apex and suture. Metasternum with crowded sub-asperate punctures, becoming sparse in middle; sides more than twice as long as sides of hind coxae. Pygidium with rather large and dense punctures. Front femora slightly serrated on middle of under surface, front tibiae bidentate; hind femora sub-angulate at middle of under surface and with a loose fascicle there; basal joint of each tarsus distinctly longer than second, each claw with a large basal appendix. Length, 5.5-6 mm.

Hab.—Queensland: Cairns, to lights (Dr. J. F. Illingworth).

Allied to *H. brevicollis*, of Group 2; that species is a consistently paler one, with the median projection of the clypeus (viewed from behind) more conspicuous and in advance of the lateral ones, the punctures coarser and more irregular, and the second tooth of the front tibiae larger and more projecting; *H. harpalinus* has also the median projection (viewed from behind) more advanced, and with coarser punctures on the pronotum and elytra. The clypeus, as viewed from behind, appears feebly trilobed, but the lateral lobes not posterior to the median one, as on *H. inconstans* when so viewed, its base (ocular canthus) on each side also projects distinctly outwards on a separate curve. The feeble angulation of the hind femora (a masculine feature) is rendered quite conspicuous by the loose fascicle and is somewhat suggestive of *H. clypealis*, but the clypeus is very different; on the present species its marginal elevation is nowhere very high, but is distinctly higher at the front angles than in the middle; on that species the elevation is greatest at the middle, and the elevated part averages almost thrice that of the present species; there are numerous other differences in the outlines, punctures, etc. Three specimens, all males, are under examination; their front and middle tarsi are slightly dilated and are rather densely padded, but much less so than on the males of *H. unidentatus*.

HETERONYX TRANSVERSOPOLITUS, n.sp.

Dark castaneous-brown; under surface and legs somewhat paler, antennae flavous. Upper surface glabrous, except for straggling lateral fringes.

Head rather large and convex; frons with rather sparse and not very large, but sharply defined, punctures, a narrow polished impunctate strip immediately behind clypeal suture; clypeus with larger and crowded punctures, margin slightly elevated. Antennae eight-jointed. Prothorax thrice as wide as the median length, front angles produced and acute, hind ones obtuse (from above, appearing sharply rectangular); punctures sparser and smaller than on frons. Scutellum with marginal punctures. Elytra somewhat dilated posteriorly, with large punctures in places in fairly regular rows (about twenty on each elytron). Metasternum with crowded punctures, becoming sparse in middle, sides thrice as long as sides of hind coxae. Pygidium with dense and rather large punctures. Front femora with a serrated, sub-dentiform projection in middle of under surface; front tibiae bidentate, the second tooth close to the first; front tarsi longer and thinner than the others; basal joint of each tarsus much longer than the second; each claw with a large, obtuse appendix. Length, 7-8 mm.

Hab.—Queensland: Innisfail (Dr. J. F. Illingworth), Cairns (H. Hacker).

Allied to *H. brevicollis*, of Group 2, and, of the closely allied species with bidentate front tibiae, it is distinguished by the comparatively sparse and small, although sharply defined, punctures on the frons, and the still smaller and sparser ones on the pronotum; it is rather more dilated posteriorly than the others, except *H. inconstans*, which is a smaller species, with larger punctures on the disc

of pronotum. Perpendicularly to itself the margin of the clypeus appears truncated across the middle, and rounded on the sides; from behind it appears almost semi-circular, with the middle feebly produced; the polished space behind its suture is very conspicuous. To the naked eye the upper surface appears almost black.

HETERONYX UNIDENTATUS, n.sp.

♂. Of a more or less bright castaneous; antennae and parts of legs paler (sometimes flavous).

Head large; frons with fairly large and sharply defined, but not very dense, punctures, immediately behind clypeal suture a narrow shining impunctate space; clypeus with margins slightly upturned and gently rounded, punctures coarser than on frons and crowded. Antennae eight-jointed. Prothorax almost thrice as wide as the median length, front angles slightly produced, hind ones slightly more than right angles and not rounded off; punctures numerous, but not crowded, and about as large as on clypeus; apical membrane very short, even behind eyes. Scutellum with a few punctures. Elytra with more or less irregular, but fairly well defined, rows of large punctures. Metasternum with fairly numerous coarse punctures on sides, sparse in middle; sides about twice the length of sides of hind coxae. Pygidium with coarse crowded punctures, and a short median carina. Front tibiae unidentate, the apical projection long and acute, the inner spur with a hooked tip; front tarsi with four basal joints conspicuously inflated, and (as also the fifth) densely padded on the under surface; middle tarsi slightly smaller, but otherwise much the same; basal joint of hind tarsi distinctly longer than second. Claws each with a large appendix. Length, 5-6.25 mm.

♀. Differs in having front and middle tarsi not dilated, and but sparsely clothed on the under surface.

Hab.—Northern Territory: Groote Eylandt (N. B. Tindale).

A remarkable species, belonging to Blackburn's Group 2, where it could be placed with *H. brevicollis*, but which has the front tibiae bidentate; the inflated tarsi of the male associate the species with *H. harpalinus*, whose front tibiae are bidentate in both sexes, although described (in error) as unidentate in the female. The front of the clypeus, from above, appears to be truncated across the middle or gently rounded, but, from behind, its middle is seen to be slightly projecting (somewhat as on *H. inconstans*). At first glance the elytra, except for the lateral fringes, appear to be glabrous, but on close examination very minute sparse depressed pubescence may be seen. Nearly fifty specimens were obtained.

HAPLONYCHA FACETA Blackb.

Three specimens from the Swan River probably belong to this species. In Blackburn's table of Group 7 the type, now in the British Museum, is noted as having "Pronotum strongly and considerably less closely punctulate" than in *H. testaceipennis*; the three specimens have the prothoracic punctures larger and sparser than on that species, but they are certainly not coarse; the species is wider, the inter-ocular punctures are considerably larger and the apical slope of elytra is different; on *H. testaceipennis* the subsutural stria on each elytron is sharply defined to the apex, with the space between it and the suture distinctly convex; on the present species each subsutural stria practically vanishes on the apical slope, and the space between its position there and the suture is concave.

of pronotum. Perpendicularly to itself the margin of the clypeus appears truncated across the middle, and rounded on the sides; from behind it appears almost semi-circular, with the middle feebly produced; the polished space behind its suture is very conspicuous. To the naked eye the upper surface appears almost black.

HETERONYX UNIDENTATUS, n.sp.

♂. Of a more or less bright castaneous; antennae and parts of legs paler (sometimes flavous).

Head large; frons with fairly large and sharply defined, but not very dense, punctures, immediately behind clypeal suture a narrow shining impunctate space; clypeus with margins slightly upturned and gently rounded, punctures coarser than on frons and crowded. Antennae eight-jointed. Prothorax almost thrice as wide as the median length, front angles slightly produced, hind ones slightly more than right angles and not rounded off; punctures numerous, but not crowded, and about as large as on clypeus; apical membrane very short, even behind eyes. Scutellum with a few punctures. Elytra with more or less irregular, but fairly well defined, rows of large punctures. Metasternum with fairly numerous coarse punctures on sides, sparse in middle; sides about twice the length of sides of hind coxae. Pygidium with coarse crowded punctures, and a short median carina. Front tibiae unidentate, the apical projection long and acute, the inner spur with a hooked tip; front tarsi with four basal joints conspicuously inflated, and (as also the fifth) densely padded on the under surface; middle tarsi slightly smaller, but otherwise much the same; basal joint of hind tarsi distinctly longer than second. Claws each with a large appendix. Length, 5-6.25 mm.

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HAPLONYCHA FIMBRICOLLIS, n.sp.

♂. Reddish-castaneous; elytra (suture and margins excepted) paler and moderately iridescent. Sterna and base of abdomen with dense, pale hair, prothorax fringed all round with long erect pale hairs; pygidium with rather sparse and short hairs on disc, the tip with a long reddish fringe, propygidium with dense short setae or pubescence, and a few stiff hairs.

Head somewhat flattened between eyes; with rather dense and moderately large punctures. Clypeus somewhat swollen immediately in front of its suture; punctures there dense and rather large, rapidly becoming sparser and smaller in front. Antennae nine-, club three-jointed, joints of the club extending to about the middle of basal joint. Palpi with apical joint somewhat depressed and punctate in middle, penultimate joint distinctly shorter than ante-penultimate. Prothorax about four times as wide as long, sides strongly rounded posteriorly, front angles sub-acute, hind ones rounded off; with small, sparsely distributed punctures, gutters wide and filled with small piliferous granules; apical membrane long. Elytra widest at about the middle, with rather sparse punctures, small and rather sharp ones, and larger and shallower ones; with feeble longitudinal elevations marking the positions of geminate rows of punctures, but these feeble and in places absent. Pygidium with small scattered punctures; propygidium opaque and densely punctate. Basal joint of hind tibiae slightly shorter than second. Length, 24-25 mm.

Hab.—Western Australia: Busselton, Kellerberrin (J. Clark).

In Blackburn's table would be associated with *H. trichopyga*, of Group 2, but is at once distinguished by the apical joint of the maxillary palpi; on that species it is long, thin, subcylindrical in section, and no part is opaque; on the present species it is shorter, with a sub-opaque punctate depression representing a remnant of the conspicuous groove of species of Group 3. The erect hairs on the margins of the prothorax are unusually long, and the basal fringe is somewhat obscured by long hairs protruding from the base of the mesonotum; the elytra have a downward projecting fringe of very short golden setae, distinct across apex, and traceable to base; in addition, each side has a fringe of outwardly projecting stiff, reddish setae, fairly long at the base, becoming shorter posteriorly, and not traceable across apex. The third and fourth joints of antennae are of equal length, the sixth is very short; the sublateral foveae of the pronotum are wide but shallow, and on each specimen have the appearance as of being irregularly impressed. The specimen from Kellerberrin has the palpi broken off, and most of the hairs missing from the apex of prothorax, but evidently belongs to the same species.

HAPLONYCHA FIMBRIPENNIS, n.sp.

Reddish-castaneous; elytra (suture and margins excepted) and most of abdomen flavous. Sterna densely pilose, a fringe of rather distantly placed hairs on each side of prothorax, pygidium with fairly numerous short hairs.

Head with punctures of moderate size, somewhat crowded near eyes and clypeal suture, sparser elsewhere. Antennae nine-, club four-jointed, fifth joint triangularly produced on one side, first joint of club three-fourths the length of second, and almost as long as four preceding joints combined. Apical joint of palpi rather thin, with an oblique punctate depression, extending for about two-thirds the length on its upper surface, penultimate joint distinctly shorter than ante-penultimate. Prothorax about thrice as wide as the median length, sides

HAPLONYCHA FIMBRICOLLIS, n.sp.

♂. Reddish-castaneous; elytra (suture and margins excepted) paler and moderately iridescent. Sterna and base of abdomen with dense, pale hair, prothorax fringed all round with long erect pale hairs; pygidium with rather sparse and short hairs on disc, the tip with a long reddish fringe, propygidium with dense short setae or pubescence, and a few stiff hairs.

Head somewhat flattened between eyes; with rather dense and moderately large punctures. Clypeus somewhat swollen immediately in front of its suture; punctures there dense and rather large, rapidly becoming sparser and smaller in front. Antennae nine-, club three-jointed, joints of the club extending to about the middle of basal joint. Palpi with apical joint somewhat depressed and punctate in middle, penultimate joint distinctly shorter than ante-penultimate. Prothorax about four times as wide as long, sides strongly rounded posteriorly, front angles sub-acute, hind ones rounded off; with small, sparsely distributed punctures, gutters wide and filled with small piliferous granules; apical membrane long. Elytra widest at about the middle, with rather sparse punctures, small and rather sharp ones, and larger and shallower ones; with feeble longitudinal elevations marking the positions of geminate rows of punctures, but these feeble and in places absent. Pygidium with small scattered punctures; propygidium opaque and densely punctate. Basal joint of hind tibiae slightly shorter than second. Length, 24-25 mm.

Hab.—Western Australia: Busselton, Kellerberrin (J. Clark).

In Blackburn's table would be associated with *H. trichopyga*, of Group 2, but is at once distinguished by the apical joint of the maxillary palpi; on that species it is long, thin, subcylindrical in section, and no part is opaque; on the present species it is shorter, with a sub-opaque punctate depression representing a remnant of the conspicuous groove of species of Group 3. The erect hairs on the margins of the prothorax are unusually long, and the basal fringe is somewhat obscured by long hairs protruding from the base of the mesonotum; the elytra have a downward projecting fringe of very short golden setae, distinct across apex, and traceable to base; in addition, each side has a fringe of outwardly projecting stiff, reddish setae, fairly long at the base, becoming shorter posteriorly, and not traceable across apex. The third and fourth joints of antennae are of equal length, the sixth is very short; the sublateral foveae of the pronotum are wide but shallow, and on each specimen have the appearance as of being irregularly impressed. The specimen from Kellerberrin has the palpi broken off, and most of the hairs missing from the apex of prothorax, but evidently belongs to the same species.

HAPLONYCHA FIMBRIPENNIS, n.sp.

Reddish-castaneous; elytra (suture and margins excepted) and most of abdomen flavous. Sterna densely pilose, a fringe of rather distantly placed hairs on each side of prothorax, pygidium with fairly numerous short hairs.

Head with punctures of moderate size, somewhat crowded near eyes and clypeal suture, sparser elsewhere. Antennae nine-, club four-jointed, fifth joint triangularly produced on one side, first joint of club three-fourths the length of second, and almost as long as four preceding joints combined. Apical joint of palpi rather thin, with an oblique punctate depression, extending for about two-thirds the length on its upper surface, penultimate joint distinctly shorter than ante-penultimate. Prothorax about thrice as wide as the median length, sides

evenly rounded, front angles produced and acute, hind ones rounded off, punctures rather sparse and small. Elytra widest at about basal two-fifths, each with four feebly elevated but distinct longitudinal ridges, marking geminate striae; punctures not very closely placed (even in striae), with numerous feeble oblique impressions. Pygidium large, with a feeble but almost continuous median ridge, surface somewhat rugose, especially about base, where the punctures are somewhat crowded. Basal joint of hind tarsi slightly shorter than second. Length, 30 mm.

Hab.—Western Australia: Northam.

Each side gutter of the pronotum with but a single row of rather distant, piliferous punctures, excludes this species from Blackburn's Group 2, so by its palpi it must be referred to Group 3; it is much larger than any other species of the latter group, and in general appearance is strikingly close to *H. latebricola*, and *H. longipalpis* (Group 2), *H. colossa* (Group 4), and *H. gigantea* (Group 5). In addition to the very short downward projecting fringe, each margin of the elytra has a fringe of outwardly projecting setae, becoming irregular and more numerous (not in a single row) about base. The type is probably a male.

HAPLONYCHA TARSALIS, n.sp.

♂. Flavous; head reddish-castaneous, its base, base and apex of prothorax very narrowly, scutellum, elytra (wholly or in part), most of abdomen and parts of legs black, or deeply infuscated. Sterna moderately pilose, parts of upper surface with a few hairs.

Head with sharply defined punctures of moderate size, denser about clypeal suture than elsewhere; clypeus with sides less narrowed to apex than usual. Antennae nine-, club four-jointed. Palpi with apical joint moderately long, with a conspicuous elliptic depression on its upper surface; two preceding joints shorter than usual. Prothorax between three and four times as wide as its median length, strongly convex, base rather strongly sloped, sides strongly rounded, front angles slightly produced and almost rectangular, hind ones rounded off; with fairly numerous punctures of moderate size. Elytra widest at about basal third; punctures denser and larger than on prothorax, with feeble remnants only of longitudinal elevations and geminate striae. Pygidium moderately large; with numerous shallow, rugose punctures of moderate sizes or small. Front tarsi with claw joint large, and each claw suddenly bent backwards at the middle, and with a large sub-basal appendix; basal joint of hind tarsi slightly longer than second. Length, 12-13 mm.

Hab.—North-western Australia: Wyndham, Forrest River.

The smallest known species of Group 3; in Blackburn's table it would be associated with *H. setosa*, which has denser punctures and is very differently coloured; in its abnormal front claws it approaches *H. marginata*, of the same group, in which they are still more abnormal in the male; they somewhat resemble those of *Macropocopriss*, the species of which live in the fur about the anus of wallabies. The dark parts of the elytra vary considerably in extent; on one specimen most of its elytra is pale, on the type the elytra are entirely dark, although the median parts show a faint decrease of colour, the third specimen is intermediate; the hind tibiae also vary in colour. Probably on fresh specimens the base, apex and sides of pronotum are all sparsely fringed with hairs, as remnants of fringes are to be seen on all three specimens; there are a few long hairs on the elytra near the scutellum, and some shorter ones posteriorly; there

evenly rounded, front angles produced and acute, hind ones rounded off, punctures rather sparse and small. Elytra widest at about basal two-fifths, each with four feebly elevated but distinct longitudinal ridges, marking geminate striae; punctures not very closely placed (even in striae), with numerous feeble oblique impressions. Pygidium large, with a feeble but almost continuous median ridge, surface somewhat rugose, especially about base, where the punctures are somewhat crowded. Basal joint of hind tarsi slightly shorter than second. Length, 30 mm.

Hab.—Western Australia: Northam.

Each side gutter of the pronotum with but a single row of rather distant, piliferous punctures, excludes this species from Blackburn's Group 2, so by its palpi it must be referred to Group 3; it is much larger than any other species of the latter group, and in general appearance is strikingly close to *H. latebricola*, and *H. longipalpis* (Group 2), *H. colossa* (Group 4), and *H. gigantea* (Group 5). In addition to the very short downward projecting fringe, each margin of the elytra has a fringe of outwardly projecting setae, becoming irregular and more numerous (not in a single row) about base. The type is probably a male.

HAPLONYCHA TARSALIS, n.sp.

♂. Flavous; head reddish-castaneous, its base, base and apex of prothorax very narrowly, scutellum, elytra (wholly or in part), most of abdomen and parts of legs black, or deeply infuscated. Sterna moderately pilose, parts of upper surface with a few hairs.

Head with sharply defined punctures of moderate size, denser about clypeal suture than elsewhere; clypeus with sides less narrowed to apex than usual. Antennae nine-, club four-jointed. Palpi with apical joint moderately long, with a conspicuous elliptic depression on its upper surface; two preceding joints shorter than usual. Prothorax between three and four times as wide as its median length, strongly convex, base rather strongly sloped, sides strongly rounded, front angles slightly produced and almost rectangular, hind ones rounded off; with fairly numerous punctures of moderate size. Elytra widest at about basal third; punctures denser and larger than on prothorax, with feeble remnants only of longitudinal elevations and geminate striae. Pygidium moderately large; with numerous shallow, rugose punctures of moderate sizes or small. Front tarsi with claw joint large, and each claw suddenly bent backwards at the middle, and with a large sub-basal appendix; basal joint of hind tarsi slightly longer than second. Length, 12-13 mm.

Hab.—North-western Australia: Wyndham, Forrest River.

The smallest known species of Group 3; in Blackburn's table it would be associated with *H. setosa*, which has denser punctures and is very differently coloured; in its abnormal front claws it approaches *H. marginata*, of the same group, in which they are still more abnormal in the male; they somewhat resemble those of *Macropocopr*, the species of which live in the fur about the anus of wallabies. The dark parts of the elytra vary considerably in extent; on one specimen most of its elytra is pale, on the type the elytra are entirely dark, although the median parts show a faint decrease of colour, the third specimen is intermediate; the hind tibiae also vary in colour. Probably on fresh specimens the base, apex and sides of pronotum are all sparsely fringed with hairs, as remnants of fringes are to be seen on all three specimens; there are a few long hairs on the elytra near the scutellum, and some shorter ones posteriorly; there

are also a few hairs on the pygidium. The outward projecting fringe of elytral setae is distinct on each side almost to the apex; but the downward projecting fringe is composed of such extremely short setae that it appears as a scarcely visible whitish rim.

HAPLONYCHA PALLIDA, n.sp.

Pale flavous; part of head, elytral suture and parts of appendages faintly tinged with red. Sterna and base of abdomen moderately pilose; prothorax with feeble fringes of hair on sides, base, and apex; elytra with a few short scattered hairs, each side with a fringe of hairs or reddish setae from near apex to base, where they are longest; pygidium fringed with hairs, four segments of abdomen each with an interrupted row of hairs.

Head with dense and well defined punctures, rapidly becoming smaller on clypeus. Antennae nine-, club four-jointed. Apical joint of palpi moderately long and subcylindrical, an elongate, narrower, slightly depressed, opaque space on upper surface. Prothorax between three and four times as wide as head, sides evenly rounded, front angles feebly produced and almost rectangular, hind ones rounded off, punctures fairly numerous but not dense (more numerous close behind sub-apical furrow than elsewhere) and sharply defined although rather small; apical membrane moderately long close to sides, but very short elsewhere. Elytra almost parallel-sided to near apex, surface in places slightly rugose; and hence causing the punctures to appear irregular, ridges marking the geminate rows of punctures feeble, the rows also feeble; suture briefly mucronate. Pygidium subtriangular, with sparse and small punctures, but becoming crowded at base; propygidium opaque and densely punctate, but apex shining. Basal joint of hind tarsi longer than second. Length, 13-14 mm.

Hab.—South Australia: Ooldea.

The depression on the apical joint of palpi is too feeble (although from certain points of view it is quite distinct) to be regarded as associating the species with the members of Group 3; the penultimate joint on two specimens appears to be slightly longer than the ante-penultimate, but on the type and another specimen the palpi are clearly visible, and the penultimate one is seen to be the longer, the species, therefore, belongs to Blackburn's Group 5, the sides and base of pronotum are very feebly fringed, so it could hardly be associated with *H. mauricei* (on one specimen the basal fringe cannot be traced), which is a larger and darker species, with much coarser punctures on clypeus, with well defined geminate rows of punctures on elytral and conspicuous prothoracic fringes; passing that species, it would be associated with *H. arvicola*, from the description of which it differs in its much smaller size, pale colour, etc. Had but one specimen been taken, it would probably have been considered immature. but the four specimens agree perfectly in colour.

HAPLONYCHA PULCHRIENNIS, n.sp.

Bright reddish-castaneous, elytra somewhat paler and with a slight pruinose iridescence. Sterna with dense pale hair, prothorax with a thin fringe of hairs on each side, continued for a short distance only around base and apex; pygidium with a thin fringe of setae, and a few shorter ones on disc.

Head with sharply defined punctures of moderate size, becoming denser and larger about clypeal suture, the intervening spaces with minute punctures; front face of clypeus with an irregular row of piliferous punctures close to labrum.

are also a few hairs on the pygidium. The outward projecting fringe of elytral setae is distinct on each side almost to the apex; but the downward projecting fringe is composed of such extremely short setae that it appears as a scarcely visible whitish rim.

HAPLONYCHA PALLIDA, n.sp.

Pale flavous; part of head, elytral suture and parts of appendages faintly tinged with red. Sterna and base of abdomen moderately pilose; prothorax with feeble fringes of hair on sides, base, and apex; elytra with a few short scattered hairs, each side with a fringe of hairs or reddish setae from near apex to base, where they are longest; pygidium fringed with hairs, four segments of abdomen each with an interrupted row of hairs.

Head with dense and well defined punctures, rapidly becoming smaller on clypeus. Antennae nine-, club four-jointed. Apical joint of palpi moderately long and subcylindrical, an elongate, narrower, slightly depressed, opaque space on upper surface. Prothorax between three and four times as wide as head, sides evenly rounded, front angles feebly produced and almost rectangular, hind ones rounded off, punctures fairly numerous but not dense (more numerous close behind sub-apical furrow than elsewhere) and sharply defined although rather small; apical membrane moderately long close to sides, but very short elsewhere. Elytra almost parallel-sided to near apex, surface in places slightly rugose; and hence causing the punctures to appear irregular, ridges marking the geminate rows of punctures feeble, the rows also feeble; suture briefly mucronate. Pygidium subtriangular, with sparse and small punctures, but becoming crowded at base; propygidium opaque and densely punctate, but apex shining. Basal joint of hind tarsi longer than second. Length, 13-14 mm.

Hab.—South Australia: Ooldea.

The depression on the apical joint of palpi is too feeble (although from certain points of view it is quite distinct) to be regarded as associating the species with the members of Group 3; the penultimate joint on two specimens appears to be slightly longer than the ante-penultimate, but on the type and another specimen the palpi are clearly visible, and the penultimate one is seen to be the longer, the species, therefore, belongs to Blackburn's Group 5, the sides and base of pronotum are very feebly fringed, so it could hardly be associated with *H. mauricei* (on one specimen the basal fringe cannot be traced), which is a larger and darker species, with much coarser punctures on clypeus, with well defined geminate rows of punctures on elytral and conspicuous prothoracic fringes; passing that species, it would be associated with *H. arvicola*, from the description of which it differs in its much smaller size, pale colour, etc. Had but one specimen been taken, it would probably have been considered immature. but the four specimens agree perfectly in colour.

HAPLONYCHA PULCHRIENNIS, n.sp.

Bright reddish-castaneous, elytra somewhat paler and with a slight pruinose iridescence. Sterna with dense pale hair, prothorax with a thin fringe of hairs on each side, continued for a short distance only around base and apex; pygidium with a thin fringe of setae, and a few shorter ones on disc.

Head with sharply defined punctures of moderate size, becoming denser and larger about clypeal suture, the intervening spaces with minute punctures; front face of clypeus with an irregular row of piliferous punctures close to labrum.

and some irregular ones elsewhere. Antennae nine-, club three-jointed, joints of club about as long as three basal joints combined. Apical joint of palpi slightly curved, its upper surface with an oblique, flat (scarcely depressed), opaque, punctate space; penultimate joint slightly shorter than ante-penultimate. Prothorax about three and one half times as wide as the median length, sides strongly rounded, front angles produced and rectangular, hind ones strongly rounded off, apical furrow strong throughout, but especially near sides; punctures rather sparse and small, but sharply defined; apical membrane long behind eyes, short elsewhere. Elytra rather strongly dilated posteriorly; punctures rather numerous and of moderate size, becoming smaller and denser about tips, geminate rows well defined, the ridge between each pair feebly elevated and distinct, and with few or no punctures; suture unarmed. Pygidium strongly convex, base with dense and small punctures, sparse elsewhere. Basal joint of hind tarsi slightly longer than second. Length, 24 mm.

Hab.—Victoria: Wangaratta (Aug. Simson).

It is somewhat dubious whether this beautiful species should be referred to Blackburn's Group 6 or Group 7; if to the former, it could scarcely be placed with *H. clara* (which is a considerably smaller and paler species), as the fringe of long hairs on each side of the prothorax stops abruptly a short distance within the base, so it would probably be associated with *H. thoracica*, from the description of which it differs in being much larger, with small prothoracic punctures, etc.; if referred to Group 7, it would be associated with *H. testaceipennis* (although I cannot regard the pronotum of that species as "closely punctulate"), from which it differs in being much larger, more castaneous, head with coarser punctures, etc.; in size and general appearance it is more or less close to *H. dubia*, *H. campestris*, *H. pilosa* (Group 2) and *H. gouldi* (Group 4). The sixth joint of the antennae is unusually thin and, from certain directions, can scarcely be seen. Each front angle of the prothorax, from above, appears to be decidedly acute, but, from a point perpendicular to itself, is seen to be rectangular. Each elytron has a fringe of very short, downward projecting, golden setae, from the suture (where the tip of an internal fringe of longer setae is visible) around the side to the hind coxa; it then changes to longer and soft hairs, and shortly after passing the coxa abruptly ends; the outward projecting fringe of reddish bristles is fairly long at the base, becomes short posteriorly and terminates level with the pygidium. Judged by its long club the type appears to be a male.

HAPLONYCHA FIMBRIATA, n.sp.

Castaneous-red; elytra (suture and margins excepted) flavous, prothorax and scutellum opaque, rest of upper surface slightly shining. Sterna with dense pale hair; prothorax completely fringed with short upright hair, each side, in addition, with a thin fringe of longer hairs; elytra with very short hairs or sparse pubescence about the sides and tips; abdomen with dense and rather long reddish setae on sides, sparse and short in middle; pygidium with numerous short setae on disc, and fringed with longer ones; propygidium with a rather dense, but normally concealed, fringe.

Head with dense and comparatively small, but sharply defined, punctures, becoming larger about clypeal suture; clypeus rather longer than usual, its suture bisinuate. Antennae nine-, club three-jointed, joints of club about as long as two basal joints of antennae combined. Apical joint of palpi moderately long and rather thin, penultimate joint shorter than ante-penultimate. Prothorax fully

and some irregular ones elsewhere. Antennae nine-, club three-jointed, joints of club about as long as three basal joints combined. Apical joint of palpi slightly curved, its upper surface with an oblique, flat (scarcely depressed), opaque, punctate space; penultimate joint slightly shorter than ante-penultimate. Prothorax about three and one half times as wide as the median length, sides strongly rounded, front angles produced and rectangular, hind ones strongly rounded off, apical furrow strong throughout, but especially near sides; punctures rather sparse and small, but sharply defined; apical membrane long behind eyes, short elsewhere. Elytra rather strongly dilated posteriorly; punctures rather numerous and of moderate size, becoming smaller and denser about tips, geminate rows well defined, the ridge between each pair feebly elevated and distinct, and with few or no punctures; suture unarmed. Pygidium strongly convex, base with dense and small punctures, sparse elsewhere. Basal joint of hind tarsi slightly longer than second. Length, 24 mm.

Hab.—Victoria: Wangaratta (Aug. Simson).

It is somewhat dubious whether this beautiful species should be referred to Blackburn's Group 6 or Group 7; if to the former, it could scarcely be placed with *H. clara* (which is a considerably smaller and paler species), as the fringe of long hairs on each side of the prothorax stops abruptly a short distance within the base, so it would probably be associated with *H. thoracica*, from the description of which it differs in being much larger, with small prothoracic punctures, etc.; if referred to Group 7, it would be associated with *H. testaceipennis* (although I cannot regard the pronotum of that species as "closely punctulate"), from which it differs in being much larger, more castaneous, head with coarser punctures, etc.; in size and general appearance it is more or less close to *H. dubia*, *H. campestris*, *H. pilosa* (Group 2) and *H. gouldi* (Group 4). The sixth joint of the antennae is unusually thin and, from certain directions, can scarcely be seen. Each front angle of the prothorax, from above, appears to be decidedly acute, but, from a point perpendicular to itself, is seen to be rectangular. Each elytron has a fringe of very short, downward projecting, golden setae, from the suture (where the tip of an internal fringe of longer setae is visible) around the side to the hind coxa; it then changes to longer and soft hairs, and shortly after passing the coxa abruptly ends; the outward projecting fringe of reddish bristles is fairly long at the base, becomes short posteriorly and terminates level with the pygidium. Judged by its long club the type appears to be a male.

HAPLONYCHA FIMBRIATA, n.sp.

Castaneous-red; elytra (suture and margins excepted) flavous, prothorax and scutellum opaque, rest of upper surface slightly shining. Sterna with dense pale hair; prothorax completely fringed with short upright hair, each side, in addition, with a thin fringe of longer hairs; elytra with very short hairs or sparse pubescence about the sides and tips; abdomen with dense and rather long reddish setae on sides, sparse and short in middle; pygidium with numerous short setae on disc, and fringed with longer ones; propygidium with a rather dense, but normally concealed, fringe.

Head with dense and comparatively small, but sharply defined, punctures, becoming larger about clypeal suture; clypeus rather longer than usual, its suture bisinuate. Antennae nine-, club three-jointed, joints of club about as long as two basal joints of antennae combined. Apical joint of palpi moderately long and rather thin, penultimate joint shorter than ante-penultimate. Prothorax fully

four times as wide as long, sides strongly rounded (almost sub-angularly dilated), front angles produced and sub-acute, hind ones not rounded off; punctures small and rather sparse; apical membrane rather long behind eyes, short elsewhere. Elytra moderately dilated posteriorly; suture very feebly mucronate. Basal joint of hind tarsi longer than second. Length, 17-18 mm.

Hab.—Western Australia: Swan River (J. Clark).

The large piliferous punctures across the front face of the clypeus, immediately above the labrum, are very distinct, but they are not quite regular, and, seen from the sides, there are other setae or hairs as well, so it is somewhat doubtful whether the species should be referred to Group 6 or Group 7; if to the latter, in Blackburn's table, it would be associated with *H. testaceipennis*, from which it is distinct by its opaque prothorax (much as on *H. opaca*), much denser punctures on head and less sharply defined elytral punctures; if referred to Group 6, it might be placed with *H. clara*, although the hairs in the basal gutter are short; that species has somewhat similar outlines, but its elytra are darker than on the present species, its prothorax is not opaque, and it has crowded punctures. On the type the elytral fringes are in perfect condition; on each side the outward projecting one at the base consists of rather long, sparse, reddish bristles; these soon change to shorter and denser ones, and are so continued to about the abdomen, when they begin to turn downwards, till on the apex they are vertical, but for a short distance after and before the sub-apical segment, they also change in thickness, so as to resemble rather elongate scales; the downward projecting fringe of very short setae is concealed by the longer fringe at and near the apex, but elsewhere appears as a very short whitish margin. On a second specimen, the fringes have been partly disarranged and abraded, disclosing the fact that the true edge of each elytron is minutely serrated almost throughout. On the type the elytral punctures (including the geminate rows) and longitudinal elevations appear to be very feeble; but on parts of the other specimen, the punctures appear to be fairly large and quite sharply defined; but it is slightly greasy, the grease causing the disappearance of the natural "bloom" that more or less conceals the punctures and causes the opaque appearance of parts of the upper surface.

LEPIDIOTA TRICHOSTERNA, n.sp.

Bright castaneous; some marginal and projecting parts (especially on the legs) darker, tibial teeth black. Rather sparsely clothed with thin, depressed, elongate, white scales or stout setae, denser on head and scutellum than elsewhere, thinner on pygidium and still thinner on propygidium; sterna and hind coxae with long and dense pale hair; longer, stouter and sparse on legs, but mixed there with stout setae-like scales, as on prothorax.

Head with coarse punctures, an obtuse longitudinal ridge in middle. Clypeus well elevated in front and scarcely bilobed, punctures evenly distributed. Antennae with club rather small. Apical joint of palpi elongate, sub-elliptic, on outer side with a narrow, flat or feebly concave, sub-opaque space. Prothorax with all angles somewhat acute, sides widest near middle; with wide, but obtuse, crenulations, front and hind margins not beaded; punctures about as large as on head, but somewhat unevenly distributed. Elytra moderately dilated to beyond the middle, each with five feeble, longitudinal elevations, of which the fourth (counting from the suture) is very feeble; punctures smaller than on prothorax, but quite as deep, larger about tips than elsewhere. Propygidium with crowded and small punctures about base, becoming sparser and larger posteriorly,

four times as wide as long, sides strongly rounded (almost sub-angularly dilated), front angles produced and sub-acute, hind ones not rounded off; punctures small and rather sparse; apical membrane rather long behind eyes, short elsewhere. Elytra moderately dilated posteriorly; suture very feebly mucronate. Basal joint of hind tarsi longer than second. Length, 17-18 mm.

Hab.—Western Australia: Swan River (J. Clark).

The large piliferous punctures across the front face of the clypeus, immediately above the labrum, are very distinct, but they are not quite regular, and, seen from the sides, there are other setae or hairs as well, so it is somewhat doubtful whether the species should be referred to Group 6 or Group 7; if to the latter, in Blackburn's table, it would be associated with *H. testaceipennis*, from which it is distinct by its opaque prothorax (much as on *H. opaca*), much denser punctures on head and less sharply defined elytral punctures; if referred to Group 6, it might be placed with *H. clara*, although the hairs in the basal gutter are short; that species has somewhat similar outlines, but its elytra are darker than on the present species, its prothorax is not opaque, and it has crowded punctures. On the type the elytral fringes are in perfect condition; on each side the outward projecting one at the base consists of rather long, sparse, reddish bristles; these soon change to shorter and denser ones, and are so continued to about the abdomen, when they begin to turn downwards, till on the apex they are vertical, but for a short distance after and before the sub-apical segment, they also change in thickness, so as to resemble rather elongate scales; the downward projecting fringe of very short setae is concealed by the longer fringe at and near the apex, but elsewhere appears as a very short whitish margin. On a second specimen, the fringes have been partly disarranged and abraded, disclosing the fact that the true edge of each elytron is minutely serrated almost throughout. On the type the elytral punctures (including the geminate rows) and longitudinal elevations appear to be very feeble; but on parts of the other specimen, the punctures appear to be fairly large and quite sharply defined; but it is slightly greasy, the grease causing the disappearance of the natural "bloom" that more or less conceals the punctures and causes the opaque appearance of parts of the upper surface.

LEPIDIOTA TRICHOSTERNA, n.sp.

Bright castaneous; some marginal and projecting parts (especially on the legs) darker, tibial teeth black. Rather sparsely clothed with thin, depressed, elongate, white scales or stout setae, denser on head and scutellum than elsewhere, thinner on pygidium and still thinner on propygidium; sterna and hind coxae with long and dense pale hair; longer, stouter and sparse on legs, but mixed there with stout setae-like scales, as on prothorax.

Head with coarse punctures, an obtuse longitudinal ridge in middle. Clypeus well elevated in front and scarcely bilobed, punctures evenly distributed. Antennae with club rather small. Apical joint of palpi elongate, sub-elliptic, on outer side with a narrow, flat or feebly concave, sub-opaque space. Prothorax with all angles somewhat acute, sides widest near middle; with wide, but obtuse, crenulations, front and hind margins not beaded; punctures about as large as on head, but somewhat unevenly distributed. Elytra moderately dilated to beyond the middle, each with five feeble, longitudinal elevations, of which the fourth (counting from the suture) is very feeble; punctures smaller than on prothorax, but quite as deep, larger about tips than elsewhere. Propygidium with crowded and small punctures about base, becoming sparser and larger posteriorly,

and somewhat larger on pygidium. Front tibiae strongly tridentate, median tooth slightly nearer first than third. Length, 23 mm.

Hab.—Queensland: Gin Gin (Easterby).

In general appearance nearer the species of *Paralepidiota* and *Pararhopaea*, than *Lepidiota*, but club three-jointed. In Blackburn's table, it would be placed in A, BB, from all the species of which it is very distinct. There are no round scales on any part of the body.

LEPIDIOTA PLATYURA, n.sp.

Blackish-brown and sub-opaque; elytra pale castaneous-brown, becoming much darker on basal third; antennae, palpi, and tarsi castaneous. Upper surface with circular or briefly elliptic, snowy scales, closely applied to derm, becoming less rounded, but quite as flat, on abdomen and hind parts; sterna and hind coxae with dense, pale hair.

Head from half-way between eyes to apex with dense round punctures, but not encroaching upon each other, near clypeal suture not as dense as elsewhere. Clypeus strongly bilobed, margins moderately upturned. Antennae with joints of club almost the length of funicle. Apical joint of palpi elongate, sub-elliptic, with a fairly deep narrow impression. Prothorax widest at about basal third, sides obtusely erenulated, front gently incurved and with a narrowly raised margin, front angles almost rectangular; hind angles very obtuse, angles with round crowded punctures, becoming sparser and smaller towards middle, but even there fairly numerous. Elytra slightly dilated about middle; with punctures much as on disc of pronotum, without distinct longitudinal lines. Abdomen and propygidium with small, crowded punctures, becoming somewhat sparser, but still dense, on pygidium, the latter unusually large and wide (9 x 6 mm.). Front tibiae strongly tridentate, the median tooth equidistant from the others. Length, 25 mm.

Hab.—Queensland: Cape York (C. French).

In Blackburn's table, this species would be associated with *L. negatoria*, from the description of which it is distinguished by the obtuse hind angles of pronotum; the pygidium is much wider than in *L. frenchi* and *L. perkinsi*, and decidedly wider than is usual in the genus. The upper surface, to the naked eye, has a curious mealy appearance. On the head, from between the middle of the eyes to the front, the scales are quite circular, and each is contained in a puncture; on the type, the base of the head is exposed and highly polished, but would normally be concealed; at the place where the apparent base would normally be exposed the scales are smaller and denser than elsewhere, so that the surface, especially close to the eyes, is completely plated; they almost completely fill the angles of the pronotum and become sparser and smaller in the middle, but still quite circular; on the elytra they are almost evenly distributed, but vary somewhat in size and slightly in outlines; they almost completely cover the abdomen and propygidium, and are dense on the pygidium. The hair on the under parts is depressed on the type, but this may be due to improper treatment; there are long pale hairs and stout white scales on the legs.

LEPIDIOTA RUGOSIPENNIS, n.sp.

Dark castaneous-brown; parts of head, extreme base of prothorax, elytral suture very narrowly, and tibial teeth black or blackish. Moderately clothed with small snow-white scales, circular or almost so on head and prothorax, pointed on

and somewhat larger on pygidium. Front tibiae strongly tridentate, median tooth slightly nearer first than third. Length, 23 mm.

Hab.—Queensland: Gin Gin (Easterby).

In general appearance nearer the species of *Paralepidiota* and *Pararhopaea*, than *Lepidiota*, but club three-jointed. In Blackburn's table, it would be placed in A, BB, from all the species of which it is very distinct. There are no round scales on any part of the body.

LEPIDIOTA PLATYURA, n.sp.

Blackish-brown and sub-opaque; elytra pale castaneous-brown, becoming much darker on basal third; antennae, palpi, and tarsi castaneous. Upper surface with circular or briefly elliptic, snowy scales, closely applied to derm, becoming less rounded, but quite as flat, on abdomen and hind parts; sterna and hind coxae with dense, pale hair.

Head from half-way between eyes to apex with dense round punctures, but not encroaching upon each other, near clypeal suture not as dense as elsewhere. Clypeus strongly bilobed, margins moderately upturned. Antennae with joints of club almost the length of funicle. Apical joint of palpi elongate, sub-elliptic, with a fairly deep narrow impression. Prothorax widest at about basal third, sides obtusely erenulated, front gently incurved and with a narrowly raised margin, front angles almost rectangular; hind angles very obtuse, angles with round crowded punctures, becoming sparser and smaller towards middle, but even there fairly numerous. Elytra slightly dilated about middle; with punctures much as on disc of pronotum, without distinct longitudinal lines. Abdomen and propygidium with small, crowded punctures, becoming somewhat sparser, but still dense, on pygidium, the latter unusually large and wide (9 x 6 mm.). Front tibiae strongly tridentate, the median tooth equidistant from the others. Length, 25 mm.

Hab.—Queensland: Cape York (C. French).

In Blackburn's table, this species would be associated with *L. negatoria*, from the description of which it is distinguished by the obtuse hind angles of pronotum; the pygidium is much wider than in *L. frenchi* and *L. perkinsi*, and decidedly wider than is usual in the genus. The upper surface, to the naked eye, has a curious mealy appearance. On the head, from between the middle of the eyes to the front, the scales are quite circular, and each is contained in a puncture; on the type, the base of the head is exposed and highly polished, but would normally be concealed; at the place where the apparent base would normally be exposed the scales are smaller and denser than elsewhere, so that the surface, especially close to the eyes, is completely plated; they almost completely fill the angles of the pronotum and become sparser and smaller in the middle, but still quite circular; on the elytra they are almost evenly distributed, but vary somewhat in size and slightly in outlines; they almost completely cover the abdomen and propygidium, and are dense on the pygidium. The hair on the under parts is depressed on the type, but this may be due to improper treatment; there are long pale hairs and stout white scales on the legs.

LEPIDIOTA RUGOSIPENNIS, n.sp.

Dark castaneous-brown; parts of head, extreme base of prothorax, elytral suture very narrowly, and tibial teeth black or blackish. Moderately clothed with small snow-white scales, circular or almost so on head and prothorax, pointed on

elytra and scutellum; under surface and hind parts densely clothed with elliptic or pointed scales, front portion only of metasternum with yellowish hair; legs with straggling hairs and white scales.

Head with dense, round punctures, smaller and denser close to eyes than elsewhere. Clypeus strongly bilobed, margins moderately upturned; punctures dense and evenly distributed. Antennae with basal joint of club extending to apex of first joint of funicle. Apical joint of palpi moderately stout, tip incurved; on upper surface with an elongate, depressed or flattened opaque space. Prothorax moderately long, widest at about basal two-fifths, sides obtusely crenulated, front angles slightly produced and almost rectangular, hind ones rounded and obtuse, front and hind margins not elevated; with fairly large, but somewhat unevenly distributed, punctures; median line shining and distinct throughout. Elytra very feebly dilated about middle; punctures mostly larger than on prothorax, and many of them connected by transverse or oblique wrinklins of the derm. Hind parts with smaller and denser punctures than on upper surface. Front tibiae strongly tridentate, median tooth slightly nearer first than third. Length, 25 mm.

Hab.—Queensland: Cairns (E. Allen).

Structurally fairly close to *L. frenchi*, but scales of hind parts not circular, pygidium somewhat smaller and less transverse, hind coxae with true scales only, and punctures and palpi different. On parts of the under surface and of the pronotum of the type, many of the scales are slaty or yellowish, but such scales have probably been stained.

PACHYTRICHA MINOR Sharp.

Miss J. F. May took several specimens of this species washed up on the beach at Cottesloe (near the Swan River).

SYSTELLOPUS ATER Lea.

Mr. J. Clark writes that the locality given for the type (Chillagoe) was wrong, and that it was obtained at the Chapman River, near Geraldton (Western Australia).

ENAMILLUS MAURICEI Blackb.

A male, from Ooldea, agrees so perfectly in structure with normal males of this species that I cannot regard it as other than a variety; it differs, however, in having the clypeus, labrum, prothorax (an obscure spot on each side infuscated), scutellum (tip obscurely infuscated) elytra and most of under surface and of legs reddish.

DYNASTIDES.

PSEUDORYCTES VALIDUS Lea.

Four males from Broome (N. W. Australia) belong to this species; they have the prothoracic cavity glabrous and the medio-apical process of the prothorax notched at the tip, thus differing from the description of *P. dispar*, and from a specimen that agrees well with that description.

CETONIDES.

CACOCHROA GYMNOPLEURA Fisch., var. FUSCOSUTURALIS, n.var.

Mr. R. Illidge has, from Gympie (Queensland), a male that agrees so perfectly in structure with the typical form of this species that I cannot regard it

elytra and scutellum; under surface and hind parts densely clothed with elliptic or pointed scales, front portion only of metasternum with yellowish hair; legs with straggling hairs and white scales.

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EUPOECILA AUSTRALASIAE Don., var. *INTRICATA* Lea.

This variety was named from a female, now in the National Museum, Melbourne. Mr. R. Illidge has recently taken, in the Queensland National Park, a male that agrees well with the figure (Trans. Roy. Soc. S. Aust., 1914, Pl. vii., fig. 22) except that the medio-basal markings on the pronotum are slightly larger.

DILOCHROSIS BROWNI Kirby.

A female from Darnley Island, received from Dr. E. W. Ferguson, evidently represents a variety of this species. Its prothorax is black, with the thickened margin pale from apex to near base, then the pale part on each side is turned inwards as a narrow line for about one-third of the width, the sides of the apex are also narrowly and irregularly pale; on the elytra an irregular basal space about equal to the length of the scutellum is black, and the sterna and abdomen are black.

METALLESTHES METALLESCENS Westw.

Messrs. R. J. Burton and A. H. Elston saw this species in abundance, on the flowering stems of a species of *Xanthorrhoea*, at Barossa (South Australia) in December.

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